



Report of the Auditor General of Alberta

OCTOBER 2013



Mr. Wayne Cao, MLA
Chair
Standing Committee on Legislative Offices

I am honoured to send my *Report of the Auditor General of Alberta—October 2013* to Members of the Legislative Assembly of Alberta, as required by Section 19(5) of the *Auditor General Act*.

[Original signed by Merwan N. Saher]

Merwan N. Saher, FCA
Auditor General

Edmonton, Alberta
October 25, 2013

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Auditor General's Message and Recommendations

REPORT OF THE AUDITOR GENERAL OF ALBERTA

October 2013

Auditor General's Message

We are the auditors of every ministry, department, fund and provincial agency, including publicly-funded universities and colleges, and Alberta Health Services. Our audit work focuses on improving governance and ethical behaviour, the safety and welfare of Albertans, and the security and use of Alberta's resources.

We do related types of auditing: financial statements, systems (or value-for-money), performance measures, results analysis and research, advice and compliance with laws. This report has results from both systems and financial statement audits. Systems audits can be stand-alone looking at major programs. Or they can be by-products of other audit work. In both cases, our goal is to identify root causes of inadequate systems and recommend how to improve the systems.

Systems auditing

I want to draw particular attention to:

Infection prevention and control at Alberta hospitals—healthcare-acquired infections pose a significant health risk. Our audit results, including recognition of more focus on IPC, are summarized at page 17.

Food safety—we have found it necessary to repeat for the second time the government's need to improve and integrate its accountability for food safety and report the results of its strategy. Our audit results, which include what the government has achieved, are summarized at page 51.

Information technology—IT is fundamental to program and service delivery, yet we regularly find various IT weaknesses. This report includes five new IT recommendations. The weaknesses point to a lack of consistently adequate IT oversight. Soon we will follow up on our outstanding recommendation to Executive Council (see page 119) that was designed to improve oversight of IT security throughout the government.

Accountability—at the heart of our recommendations in these three areas is the need for improved accountability that would produce better results and lower risks. Accountability is the obligation to show continually improving results in the context of fair and agreed on expectations. For Albertans to receive the value for money they deserve, all those who use public resources must:

1. set measurable goals and responsibilities
2. plan what needs to be done to achieve goals
3. do the work and monitor progress
4. report on results
5. evaluate results and provide feedback

Improved results will come from using this simple model only if all responsible parties play their part. Otherwise there is an accountability vacuum that drives up risk.

Those delivering service must be clear on what they have agreed to do. Those providing oversight must check that control systems are working well (the auditor is not the only one who must check).

CEOs of provincial agencies and deputy ministers must measure their organizations' performance to develop the next plans. Did they achieve their intended results at a reasonable cost? Did their strategies work? Management's reports on results, together with analysis, are important tools needed by ministers, cabinet and agency boards to carry out their oversight responsibilities. Published results analysis is the means by which those with the ultimate oversight role—MLAs, on behalf of the public who pay taxes and receive services—evaluate how well the government has done and what has been learned to improve future performance.

Perhaps the most difficult part of the model to do well is reporting and evaluating results—and even more difficult when more than one ministry or more than one agency shares accountability. But if results analysis is done poorly, then the whole model becomes increasingly ineffective since its sole purpose is to drive improved results. I intend to continue to use my office's resources to assist Alberta's public service in its goal of achieving optimal results across government.

Update on disaster recovery program

We report that the Department of Municipal Affairs implemented our October 2009 recommendation to improve its management of the disaster recovery program. This involved setting timelines related to federal funding and periodically adjusting costs and recovery estimates.

Following on the severe flooding in June this year, we have agreed to audit the quality of the planning and execution of the government's current flood mitigation efforts.

Financial statement auditing

I want to draw attention to page 73—Financial Statements and Performance Measures—because this one critical page conveys the direct result of about 75 per cent of our audit effort. We report that we issued unqualified independent auditor's reports on the financial statements of over 150 entities, including the consolidated financial statements of the Government of Alberta for the year ended March 31, 2013. We also report the extent of our work on ministry and agency performance measures, including the government's Measuring Up report for the year ended March 31, 2013.

The fact that none of our auditor's reports on financial statements contained a reservation of opinion means that Albertans can be sure they are receiving high quality information from the government on the province's actual financial performance.

Fewer outstanding (unimplemented) recommendations

The trend is in the right direction—the number of our unimplemented recommendations keeps decreasing. It has gone from 308 in October 2010 to 233 in October 2012 to 225 now. We aim to reduce it to 150, which would be about the number of recommendations we make in a two to three-year period.

I am pleased that the government and my office are working cooperatively to reduce the number of outstanding recommendations. This report shows there are a considerable number of recommendations ready for our follow-up auditing. We will continue to use our judgement to allocate our resources to do both new and follow-up systems audits.

Our performance

On July 4, 2013, I sent my office's own performance report for the year ended March 31, 2013 to the Chair of the Standing Committee on Legislative Offices and then we published it on our website. I have included our performance report in this October 2013 report because I believe that my office's accountability is improved by making a direct connection between audit results and the cost of achieving those results.

October 2013 Recommendations

We conducted our audits in accordance with the *Auditor General Act* and the standards for assurance engagements set by the Canadian Institute of Chartered Accountants.

This report contains 12 new and three repeated recommendations to government. The repeated recommendations have been made because we do not believe there has been sufficient action taken to implement our previous recommendations.

As part of the audit process, we provide recommendations to government in documents called management letters. We use public reporting to bring recommendations to the attention of Members of the Legislative Assembly. For example, members of the all-party Standing Committee on Public Accounts refer to the recommendations in our public reports during their meetings with representatives of government departments and agencies.

We believe all of the recommendations in this report require a formal public response from the government. In instances where a recommendation has been made to a board-governed organization, we expect the organization to implement the recommendation and report back to its respective government ministry as part of proper oversight of the organization. By implementing our recommendations, the government will significantly improve the safety and welfare of Albertans, the security and use of the province's resources, or the governance and ethics with which government operations are managed.

Reporting the status of recommendations

We follow up all recommendations. The timing of our follow-up audits depends on the nature of our recommendations. To encourage timely implementation, and assist with the planning of our follow-up audits, we require a reasonable implementation timeline on all recommendations accepted by the government or the entities we audit that report to the government. We recognize some recommendations will take longer to fully implement than others, but we encourage full implementation within three years. Typically, we do not report on the progress of an outstanding recommendation until management has had sufficient time to implement the recommendation and we have completed our follow-up audit work.

We repeat a recommendation if we find that the implementation progress has been insufficient. We report the status of our recommendations as:

- **Implemented**—We explain how the government implemented the recommendation.
- **Satisfactory progress**—We may state that progress is satisfactory based on the results of a follow-up audit.
- **Progress report**—Although the recommendation is not fully implemented, we provide information when we consider it useful for MLAs to understand management's actions.
- **Repeated**—We explain why we are repeating the recommendation and what the government must still do to implement it.
- **Changed circumstances**—If the recommendation is no longer valid, we explain why and remove the recommendation from our outstanding recommendation list.

SYSTEMS AUDITING—NEW AUDIT

Health and Alberta Health Services—Infection Prevention and Control at Alberta Hospitals

Page 22

RECOMMENDATION 1: OVERSIGHT AND ACCOUNTABILITY FOR INFECTION PREVENTION AND CONTROL

We recommend that the Department of Health:

- determine clear implementation responsibilities of each partner identified under the infection prevention and control strategy and the hand hygiene strategy
- improve its systems to monitor implementation progress and publicly report on the success of both strategies

Implications and risks if recommendation not implemented

Without systems to set implementation accountabilities and monitor progress, the department cannot fully assess effectiveness of the IPC and hand hygiene strategies. The initial detailed action plans and subsequent progress reports are needed to determine whether IPC activities performed by various parties fully meet the implementation expectations for both strategies, what items remain outstanding, who is responsible and when the work will be finished.

Page 27

RECOMMENDATION 2: CLEANING, DISINFECTION AND STERILIZATION OF MEDICAL DEVICES

We recommend that Alberta Health Services establish clear oversight and accountability for medical device reprocessing within and across zones to ensure consistent processes and accountability for reprocessing activities in Alberta.

Implications and risks if recommendation not implemented

Proper reprocessing of medical devices is critical for patient safety. Without a strong provincial system to direct, coordinate, support and oversee individual reprocessing sites, AHS cannot ensure consistent and appropriate reprocessing of medical devices at Alberta hospitals.

Page 31

RECOMMENDATION 3: PREVENTION AND CONTROL OF ANTIBIOTIC-RESISTANT ORGANISMS

We recommend that Alberta Health Services improve its systems to manage risk posed by antibiotic-resistant organisms at hospitals, by:

- developing an evidence-informed approach for evaluating and aligning antibiotic-resistant organism policies and procedures in hospitals
- developing an approach to provide antibiotic stewardship in hospitals across the province

Implications and risks if recommendation not implemented

Antibiotic-resistant organisms in hospitals pose serious, and in some cases life-threatening, health risks to patients and healthcare workers. Infections caused by AROs also consume significant hospital resources in terms of staff time, supplies, isolation space, laboratory testing and pharmaceuticals. Strong systems to identify and manage patients with AROs can help AHS improve quality of patient care and reduce hospital costs overall.

Page 38

RECOMMENDATION 4: HAND HYGIENE PRACTICES

We recommend that Alberta Health Services improve its systems for hand hygiene by:

- clarifying responsibility and accountability for improving hand hygiene compliance across hospitals
- using available data, on a risk-focused basis, to identify hospital units with poor compliance and take appropriate remedial action
- strengthening the infection prevention and control orientation and training provided to hospital healthcare workers

Implications and risks if recommendation not implemented

Proper hand hygiene is the single most effective way to prevent the spread of communicable diseases and infections. Without adequate systems to set hand hygiene expectations and targets, provide training and ensure compliance among healthcare workers, hospital patients face higher risk of a serious infection.

SYSTEMS AUDITING—FOLLOW-UP AUDITS

Agriculture and Rural Development, Health and Alberta Health Services—Provincial Food Safety Follow-up

Page 59

RECOMMENDATION 5: ACCOUNTABILITY FOR FOOD SAFETY—REPEATED

We again recommend that the Departments of Agriculture and Rural Development and Health improve reporting on food safety in Alberta.

Implications and risks if recommendation not implemented

Without a system to coordinate accountability for food safety, the ministries will not be able to demonstrate the effectiveness of their actions in an environment of shared responsibilities. Individual participants also need systems to demonstrate the effectiveness of their own food safety activities.

FINANCIAL STATEMENTS AND PERFORMANCE MEASURES AUDITING

Energy—Department

Page 87

RECOMMENDATION 6: IMPLEMENT AN ENTERPRISE RISK MANAGEMENT SYSTEM

We recommend that the Department of Energy design and implement an effective enterprise risk management system to ensure relevant risks are identified, tracked and appropriately mitigated.

Implications and risks if recommendation not implemented

Without an effective enterprise risk management system, the department may not identify and manage risks efficiently and effectively and senior management might not be able to effectively oversee the department's risk management processes.

Page 89

RECOMMENDATION 7: ENSURE COMPLIANCE WITH TERMS OF BIOENERGY GRANT AGREEMENTS—REPEATED

We again recommend that the Department of Energy ensure that recipients under the bioenergy producer credit program are complying with their grant agreements.

Implications and risks if recommendation not implemented

Without timely receipt and review of the required reports from bioenergy producers the department may not be receiving the information it requires to assess compliance with grant agreements and to assess whether the objectives of the bioenergy producer credit program are being met.

Enterprise and Advanced Education—Athabasca University

Page 95

RECOMMENDATION 8: IMPROVE PROCEDURES TO MONITOR AND REPORT ACCESS AND SECURITY VIOLATIONS

We recommend that Athabasca University formalize its access and security monitoring procedures to:

- detect and assess security threats to critical information systems
- report access and security violations to senior management
- identify and resolve the root causes of security threats and violations

Implications and risks if recommendation not implemented

Failure to actively monitor access and security violations may allow an intruder to probe for weaknesses or entry points to the university's financial information systems. Access and security violations may be undetected or not properly dealt with, causing potential security threats to the university's financial applications and information resources.

Page 96

RECOMMENDATION 9: DEVELOP DISASTER RECOVERY PLAN AND CAPABILITIES—REPEATED

We again recommend that Athabasca University:

- assess the risks and take the necessary steps to establish appropriate offsite disaster recovery facilities, that include required computer infrastructure, to provide continuity of critical IT systems
- complete and test its existing disaster recovery plan to ensure continuous services are provided in the event of a disaster

Implications and risks if recommendation not implemented

Without a functional disaster recovery plan and appropriate recovery facilities and equipment, Athabasca University may not be able to systematically recover data or resume critical business and student services functions within the required timeframes.

Environment and Sustainable Resource Development—Department

Page 113

RECOMMENDATION 10: SECURITY PATCH MANAGEMENT OF SERVERS

We recommend that the Department of Environment and Sustainable Resource Development regularly update its computer servers with security and operating system patches to reduce the risk of security weaknesses.

Implications and risks if recommendation not implemented

Delays in implementing security patches make the department's computer systems more vulnerable to unauthorized access to its financial and business applications.

Municipal Affairs—Alberta Social Housing Corporation

Page 145

RECOMMENDATION 11: REVIEW HOUSING MANAGEMENT BODY CASH RESERVE POLICY

We recommend that the Alberta Social Housing Corporation review the housing management body cash reserve policy to determine if the policy continues to meet its objective of providing appropriate short-term operational cash flow requirements to the housing management bodies.

Implications and risks if recommendation not implemented

Funds can be better allocated to other priorities if ASHC does not provide cash reserves to those housing management bodies that have sufficient surpluses to meet their operational needs.

Treasury Board and Finance—ATB Financial

Page 156

RECOMMENDATION 12: IT RISK ASSESSMENTS

We recommend that ATB Financial implement processes to identify, assess and remediate or accept IT risks.

Implications and risks if recommendation not implemented

Without effective IT risk management practices, ATB Financial may not identify its IT risks, the impact of the risks to ATB Financial, or if its IT risks are being sufficiently mitigated.

Page 157

RECOMMENDATION 13: IT CHANGE MANAGEMENT

We recommend that ATB Financial ensure its IT change management processes are followed.

Implications and risks if recommendation not implemented

Without effective change management processes, ATB Financial could be at risk of allowing unauthorized or untested changes to its banking system which could cause future problems.

Page 158

RECOMMENDATION 14: BORROWER RISK RATINGS

We recommend that ATB Financial fix the borrower risk ratings in the banking system.

Implications and risks if recommendation not implemented

ATB Financial does not have an accurate reflection of credit risk within its loan portfolio and could report inaccurate financial information because calculations such as the loan loss allowance are dependent upon accurate borrower risk ratings in the banking system.

Treasury Board and Finance—Alberta Gaming and Liquor Commission

Page 160

RECOMMENDATION 15: SECURITY PATCH MANAGEMENT

We recommend that the Alberta Gaming and Liquor Commission ensure it consistently applies security patches to its information systems to proactively manage security vulnerabilities.

Implication and risks if recommendation not implemented

Delayed patch management increases vulnerabilities in AGLC's computing environment, which may allow unauthorized access to its business applications and critical data, resulting in fraudulent or malicious activities.

Outstanding Recommendations Summary

A list of outstanding recommendations for a ministry and the entities that report to it is included at the end of each ministry chapter in this report which begins on page 75. We list outstanding recommendations under the entity that is responsible for their implementation.

These recommendations include the following categories:

- **Numbered**—These require a formal public response from the government. When implemented, these recommendations will significantly improve the safety and welfare of Albertans, the security and use of the province's resources, or governance and ethics processes in government.
- **Unnumbered**—In previous reports some recommendations were unnumbered; although important, these recommendations do not require a formal public response from government.

Each list has two parts, indicating where management has informed us that either:

- the recommendation is still being implemented and not ready for a follow-up audit, or
- the recommendation has been implemented and is ready for a follow-up audit

We currently have 225 outstanding recommendations—185 numbered and 40 unnumbered:

	Numbered		Unnumbered	Total
	3+	Other		
Ready for follow-up audits	18	49	19	86
Not yet ready for follow-up audits	37	81	21	139
Total	55	130	40	225

Since October 2012, we have made 55 new recommendations and reported that 63 have been implemented as follows:

Report	Implemented	New	Total
October 2012			233
February 2013	16	28	245
July 2013	14	15	246
October 2013	33	12	225
	63	55	

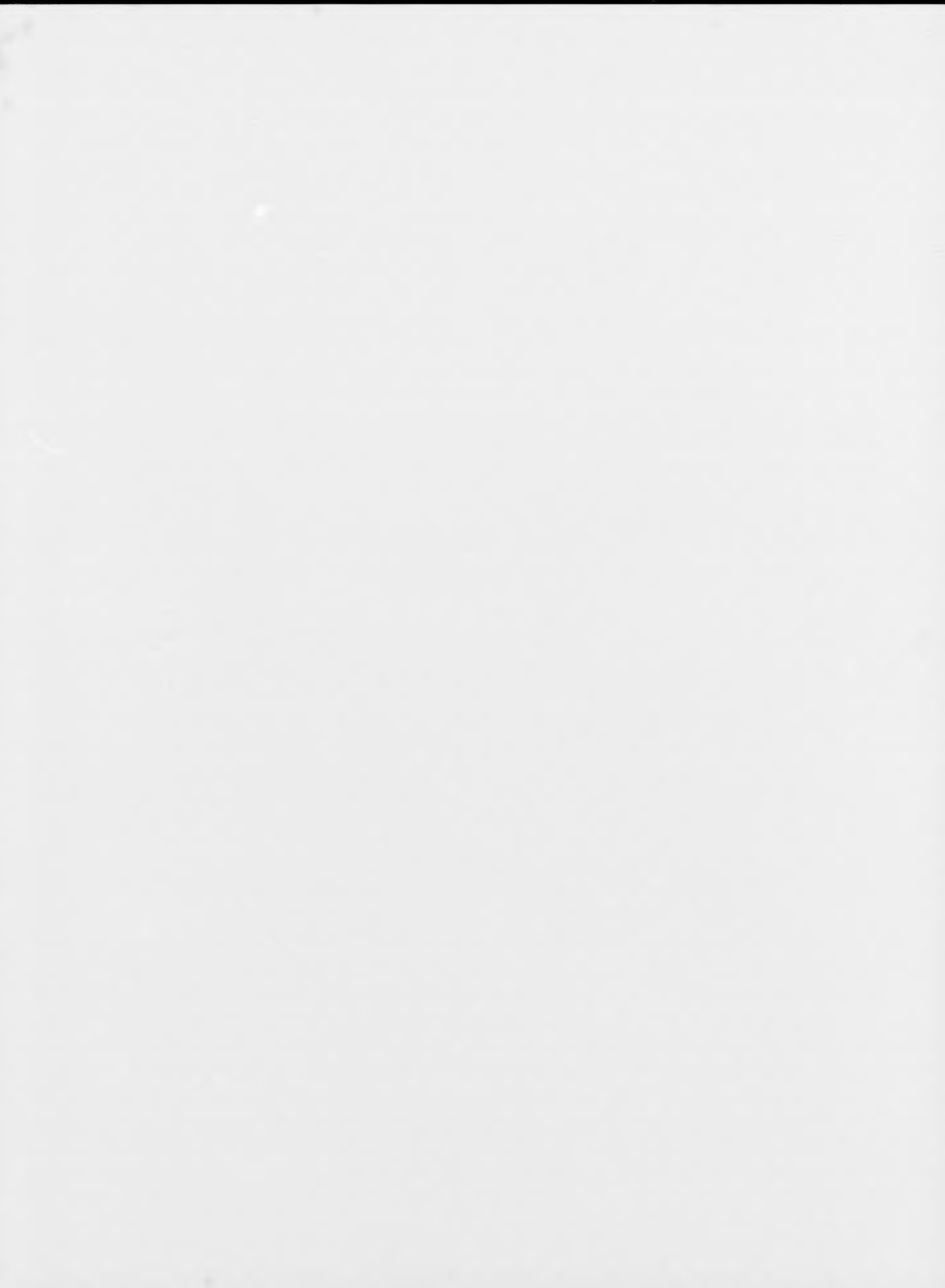
The reports that contain these recommendations are on our website at www.oag.ab.ca.



Stand-alone Systems Auditing—New Audit

REPORT OF THE AUDITOR GENERAL OF ALBERTA

October 2013



Health and Alberta Health Services — Infection Prevention and Control at Alberta Hospitals

SUMMARY

Infection prevention and control is one of the central aspects of healthcare delivery and is critical for managing patient safety risk in a hospital setting. Such concepts as proper hand washing and cleaning of medical devices appear basic, yet they are fundamental for preventing the spread of infections. The increasing proliferation of microorganisms resistant to antibiotic medications is a threat to the health of Albertans. Infection prevention and control (IPC) has an important role to play in managing this threat.

What we examined

Our audit had two objectives:

- determine whether the Department of Health has adequate systems to demonstrate successful implementation of the 2008 Alberta Infection Prevention and Control Strategy, and the 2008 Alberta Hand Hygiene Strategy
- determine whether Alberta Health Services (AHS) has adequate systems to demonstrate the success it has in managing health risk in hospitals through the following IPC activities:
 - hand hygiene practices
 - cleaning, disinfection and sterilization of multiple-use medical devices
 - management of patients with antibiotic-resistant organisms (AROs)

What we found

There has been a stronger focus on IPC at hospitals over the last several years and AHS, with the department's support, has introduced important provincial IPC systems that fill critical gaps in all three areas we selected for our audit.

During our hospital visits we did not observe instances where there was an immediate and significant risk to patient safety. Although there have been many improvements in hospital IPC during recent years, we found weaknesses in management systems to ensure implementation of the provincial IPC strategy and the hand hygiene strategy, as well as weaknesses in AHS systems to manage IPC risk within hospitals.

The main theme of our three recommendations to AHS is the following:

- availability of the hospital IPC data has improved
- AHS does not yet have adequate systems at the organizational level to use this data to focus management attention on areas of high risk and evaluate existing hospital IPC practices to support evidence-informed service delivery

What needs to be done

We made one recommendation to the Department of Health and three to Alberta Health Services.

Recommendation 1: Oversight and accountability for infection prevention and control

We recommend that the Department of Health:

- determine clear implementation responsibilities of each partner identified under the infection prevention and control strategy and the hand hygiene strategy
- improve its systems to monitor implementation progress and publicly report on the success of both strategies

Recommendation 2: Cleaning, disinfection and sterilization of medical devices

We recommend that Alberta Health Services establish clear oversight and accountability for medical device reprocessing within and across zones to ensure consistent processes and accountability for reprocessing activities in Alberta.

Recommendation 3: Prevention and control of antibiotic-resistant organisms

We recommend that Alberta Health Services improve its systems to manage risk posed by antibiotic-resistant organisms at hospitals by:

- developing an evidence-informed approach for evaluating and aligning antibiotic-resistant organism policies and procedures in hospitals
- developing an approach to provide antibiotic stewardship in hospitals across the province

Recommendation 4: Hand hygiene practices

We recommend that Alberta Health Services improve its systems for hand hygiene by:

- clarifying responsibility and accountability for improving hand hygiene compliance across hospitals
- using available data, on a risk-focused basis, to identify hospital units with poor compliance, and take appropriate remedial action strengthening the infection prevention and control orientation and training provided to hospital healthcare workers

Why this is important to Albertans

Healthcare-acquired infections affect hospital patients and often lead to serious complications. Infections acquired while in a hospital have more significant negative outcomes than infections acquired in the community, result in longer hospitalizations and represent an added cost to the healthcare system. Many healthcare-associated infections are preventable.

AUDIT OBJECTIVES, SCOPE AND APPROACH

This audit had the following two objectives:

- determine whether the department has adequate systems to demonstrate successful implementation of the 2008 Alberta Infection Prevention and Control Strategy and the 2008 Alberta Hand Hygiene Strategy
- determine whether AHS has adequate systems to demonstrate the success it has in managing health risk in hospitals through the following IPC activities:
 - hand hygiene practices
 - cleaning, disinfection and sterilization of multiple-use medical devices
 - management of patients with antibiotic-resistant organisms

Scope and approach

The scope of our work included the following:

- management systems within the Department of Health and AHS to prevent and control infections in hospital settings—IPC activities in continuing care and the community were outside scope for this audit
- systems and processes that were in place after January 2011
- a detailed assessment of AHS systems in the following three areas:
 - hand hygiene
 - cleaning, disinfection and sterilization of multiple-use medical devices
 - management of patients with antibiotic-resistant organisms
- a sample of 35 nursing units at 11 hospitals across the province

Although our sample included facilities operated by contracted service providers, our work was designed to conclude on AHS's systems to ensure consistent and adequate IPC service delivery in the province. Our assessment included certain elements of cleaning patient rooms and units as part of AHS's process to manage patients with AROs. However, we did not examine AHS management systems to manage environmental cleaning in hospitals.

We conducted our field work from December 2012 to March 2013. Our audit was conducted in accordance with the *Auditor General Act* and the standards for assurance engagements set by the Canadian Institute of Chartered Accountants.

BACKGROUND

Prevention and control of infections in hospitals is critical for achieving positive health outcomes for hospitalized patients. Although it is not possible to prevent all hospital-acquired infections, effective infection prevention and control can help substantially reduce the number of serious complications and deaths of hospital patients, and improve the use of healthcare resources.¹

An important distinction has to be made between infections acquired prior to hospital admission and those acquired by patients while in or at the hospital.² Unlike infections acquired in the community outside of healthcare settings, many hospital-acquired infections are preventable if healthcare workers, patients and visitors follow proper IPC practices. Based on data from some of the hospital studies in the United States, from 50 to 70 per cent of certain hospital-associated infections are preventable.³

Infections are common in the community (e.g., upper respiratory tract infections, pneumonia, skin and soft tissue infections, urinary tract infections and digestive tract infections). However, hospital patients are particularly vulnerable because of the increasingly complex interventions they require and the impact their underlying health condition(s) and side effects of treatment may have in weakening their immune system. An infection in a hospitalized patient may result in significant health complications and, in some cases, death. For example, one of many possible negative outcomes is sepsis—a condition resulting

¹ David P. Calfree. *Crisis in Hospital-Acquired, Healthcare-Associated Infections*, Volume 63, pages 359-371 <http://www.annualreviews.org/doi/abs/10.1146/annurev-med-081210-144458?prevSearch=%253Cb%253EFull%2BText%253C%252Fb%253E%253A%2Bcrisis%2Bhospital-acquired&searchHistoryKey=> (February 2012)

² Although individual patient cases may be different, for surveillance purposes standardized definitions of hospital-acquired vs. community-acquired microorganism are typically based on when the microorganism was identified. For example, the Canadian Nosocomial Infection Surveillance Program protocol for Methicillin-resistant *Staphylococcus aureus* defines cases as hospital-acquired if they were identified over 48 hours after hospital admission.

³ Ibid.

from the body's response to severe infection. According to the Canadian Institute of Health Information,⁴ patients diagnosed with sepsis after being admitted to hospital were 56 per cent more likely to die than patients diagnosed with sepsis before their admission.

Why IPC is important

IPC is an important factor in both the quality and the cost of healthcare.

Quality

Hospital-acquired infections are linked to increased morbidity and a significant number of deaths in Canada. According to sources used by the Community and Hospital Infection Control Association – Canada, an estimated 220,000 infections are acquired in healthcare facilities across Canada annually and 8,000 deaths are linked to these infections.⁵ For comparison, there are more deaths associated with healthcare-acquired infections than with diabetes (6,923 deaths in 2009⁶), Alzheimer's disease (6,281 deaths in 2009), or influenza and pneumonia (5,826 deaths in 2009). There are over three times more deaths associated with healthcare-acquired infections than with motor vehicle accidents (2,227 in 2010⁷) and about 14 times more than with homicides (574 in 2009⁸).

Cost

Infections can be costly. According to U.S. studies, about five per cent of persons admitted to a hospital develop an infection during hospitalization.⁹ An estimated average cost of an infection can vary from about \$1,000 (e.g., catheter-associated urinary tract infection) to \$35,000 (e.g., surgical site infection). Individual cases that require surgery and hospitalization can be considerably more expensive. In Alberta, the Department of Health estimates that the cost of caring for a patient with a hospital-acquired infection ranges from \$2,000 to \$20,000.¹⁰ According to the Canadian Institute of Health Information,¹¹ the median length of hospital stay in Canada for a patient with sepsis is nine days longer than for the average patient admitted with other conditions. Close to half (45 per cent) of all patients with sepsis are admitted to the intensive care unit during their stay.

Patients who develop infections due to antibiotic-resistant organisms have significantly higher rates of mortality and longer hospitalizations.¹² Studies from the U.S. show that about 16 per cent of all healthcare-associated infections are caused by antibiotic-resistant organisms. Patients with infections

⁴ Canadian Institute of Health Information. Canadian hospitals aim to reduce mortality rates, but severe infections remain a challenge. http://www.cihi.ca/cihi-ext-portal/internet/en/document/health+system+performance/quality+of+care+and+outcomes/hsmr/release_10dec09 (December 10, 2009)

⁵ Community and Hospital Infection Control Association-Canada. Public Reporting and Inter-hospital Comparison of Health Care-Acquired Infections, page 1. <http://www.chica.org/pdf/AMMIposition.pdf> (May 2006)

⁶ Statistics Canada. Leading causes of death, total population, by age group and sex, Canada. Table 102-0561. <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&searchTypeByValue=1&id=1020561>

⁷ Transport Canada. Canadian Motor Vehicle Traffic Collision Statistics: 2010, Collision and Casualties 1991-2010 table. <http://www.tc.gc.ca/eng/roadsafety/tp-1317.htm>

⁸ Statistics Canada. Leading causes of death, total population, by age group and sex, Canada. Table 102-0561. <http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&searchTypeByValue=1&id=1020561>

⁹ Kleven, et al. Estimating Health Care-Associated Infections and Deaths in U.S. Hospitals, 2002, Public Health Reports, March-April 2007, pages 160-166 http://www.cdc.gov/HAI/pdfs/hai/infections_deaths.pdf

¹⁰ Alberta Health. Infection prevention and control. <http://www.health.alberta.ca/health-info/prevent-infections.html>

¹¹ Canadian Institute of Health Information. Canadian hospitals aim to reduce mortality rates, but severe infections remain a challenge. http://www.cihi.ca/cihi-ext-portal/internet/en/document/health+system+performance/quality+of+care+and+outcomes/hsmr/release_10dec09 (December 10, 2009)

¹² Cosgrove. The Relationship between Antimicrobial Resistance and Patient Outcomes: Mortality, Length of Hospital Stay, and Health Care Costs. http://cid.oxfordjournals.org/content/42/Supplement_2/S82.full.pdf+html

due to antibiotic-resistant organisms have higher costs (by about \$6,000 to \$30,000) than patients with infections that respond well to antibiotics.¹³

IPC in Alberta

IPC has received considerable attention in Alberta, after a major incident at Vegreville's St. Joseph's Hospital in 2007. The hospital's use of inadequately sterilized medical equipment and the outbreak of Methicillin-resistant *Staphylococcus aureus* resulted in a shutdown of its central sterilization facility and closure of the hospital to new admissions. A subsequent review of the former health region's IPC practices by the Health Quality Council of Alberta in July 2007 resulted in a number of recommendations to the hospital, but also to other health regions and the Department of Health.¹⁴ The department also conducted a provincial review of IPC policies and practices and the resulting document, Provincial Review of Infection Prevention and Control, was completed in August 2007.¹⁵

The department's 2007 IPC review identified five directions for moving forward, which included specific actions to improve IPC services in the province. The review noted that while there were components of an IPC system in place, there was little coordination and integration among the different providers of healthcare in the province in such areas as policies, practices, standards, compliance monitoring and training.

Among other things, the 2007 IPC review called for a collaborative and coordinated approach to IPC by all involved parties. This resulted in the development of the IPC strategy and the hand hygiene strategy introduced by the department in 2008, together with four standards for IPC.¹⁶

Strategies

- Alberta Infection Prevention and Control Strategy
- Alberta Hand Hygiene Strategy

Standards

- Accountability and Reporting Standards
- Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for Healthcare Facilities and Settings
- Standards for Single-use Medical Devices (Critical and Semi-critical medical devices)
- Standards for Prevention and Management of Methicillin-resistant *Staphylococcus aureus* (MRSA)

An overview of both strategies and the four IPC standards is presented in Appendix A.

Each strategic direction under the IPC strategy has objectives and proposed actions for the Department of Health, AHS and healthcare professional regulatory bodies. Each strategic direction under the hand hygiene strategy has objectives and proposed actions for provincial, regional, local and federal partners. Both strategies call for detailed action plans to support their implementation.

¹³ Chicago Journals, The Society for Healthcare Epidemiology of America. See <http://www.jstor.org/stable/pdfplus/10.1086/591861.pdf>

¹⁴ Health Quality Council of Alberta. Review of the Infection Prevention and Control and CSR Sterilization Issues in East Central Health Region. <http://publications.hqca.ca/preview/87> (July 2007)

¹⁵ Alberta Health and Wellness. Provincial Review of Infection Prevention and Control. <http://www.health.alberta.ca/documents/IPC-Review-2007.pdf> (August 2007)

¹⁶ Alberta Health website. Infection prevention and control (IPC) publications. <http://www.health.alberta.ca/newsroom/pub-infection-prevention.html>

Critical activities for preventing and controlling infections at hospitals

Preventing transmission is the key to avoiding infection.¹⁷ Although there are many dimensions to effective IPC, our review of IPC literature suggests that three areas are among the most critical for preventing and controlling hospital-acquired infections:

- hand hygiene practices
- cleaning, disinfection and sterilization of multiple-use medical devices
- preventing and managing the spread of infection in hospitals, including antibiotic-resistant organisms and other significant infection such as *Clostridium difficile* bacteria

Failure to appropriately and effectively manage any one of these areas represents a significant risk to the health of Albertans and to the use of public resources. In our audit we paid particularly close attention to the department's and AHS's systems to manage these three areas.

FINDINGS AND RECOMMENDATIONS

Department's oversight and accountability for IPC

Background

Both the IPC strategy and the hand hygiene strategy were to be implemented and evaluated over a 10-year period starting in 2008. Each strategy called for the development of detailed action plans. The IPC strategy set out six strategic directions and assigned specific actions for each of three parties identified as having important roles in this process: the Department of Health, AHS and health professional regulatory bodies. The hand hygiene strategy set out five strategic directions and provided a general list of multiple provincial, municipal, federal and other organizations as partners in implementing the strategy.

The department introduced four IPC standards in 2008 and updated three of these standards in 2011–2012.

In examining processes for implementing the two strategies, we focused on the following areas:

- roles and responsibilities of the department and AHS in relation to strategy development and implementation
- systems to support strategy implementation with action plans that clearly define implementation expectations, measures of progress and timelines
- systems to monitor and report implementation progress for both strategies

RECOMMENDATION 1: OVERSIGHT AND ACCOUNTABILITY FOR INFECTION PREVENTION AND CONTROL

We recommend that the Department of Health:

- determine clear implementation responsibilities of each partner identified under the infection prevention and control strategy and the hand hygiene strategy
- improve its systems to monitor implementation progress and publicly report on the success of both strategies

¹⁷ David P. Calfree. Annual Reviews website, Volume 63, pages 359–371. <http://www.annualreviews.org/doi/abs/10.1146/annurev-med-081210-144458?prevSearch=%253Cb%253EFull%2BText%253C%252Fb%253E%253A%2Bcrisis%2Bhospital-acquired&searchHistoryKey> (February 2012)

Criteria: the standards for our audit

For the IPC strategy and the hand hygiene strategy, the department should have systems to:

- set or approve measures and targets for individual objectives under each strategy
- perform tasks it is responsible for under specific action items for each strategy
- monitor overall implementation of the strategies
- report publicly on the success of both strategies and on IPC activities in the province

Our audit findings

KEY FINDINGS

- Given the recent restructuring in the provincial healthcare system, AHS may now be better positioned to assume responsibility for developing and implementing strategies, with oversight from the department.
- Implementation expectations of individual partners under the IPC strategy and the hand hygiene strategy are not clear.
- The department does not have adequate systems to monitor and report implementation progress for both strategies.
- The department's strategies do not adequately fulfill the need for province-wide action to manage the spread of antibiotic-resistant organisms and the associated health risk.

IPC strategy and hand hygiene strategy in light of structural changes in the healthcare system

The department has not formally updated either strategy since 2008. The healthcare system in Alberta has changed significantly over the last five years and the creation of AHS in 2009 had important implications for implementing individual actions under both strategies. Our interviews with management and staff at the department and AHS, and our review of documentation, show that the strategic directions and most of the individual actions and initiatives under both strategies remain valid and relevant. However, for the IPC strategy there may be a need to review and update the allocation of individual actions between the department and AHS. Also, it may be necessary to determine which partners should be responsible for individual actions under the hand hygiene strategy.

Historically, the department led development and coordinated implementation of key initiatives under both the IPC strategy and the hand hygiene strategy. After amalgamation of nine health authorities into a single provincial healthcare service delivery organization, this may be a good time to assess whether AHS should take the lead role on some of this work in order for the department to focus its resources on providing policy direction and oversight.

AHS has a well-defined provincial IPC management structure with a critical mass of 144 full-time equivalent staff and experts dedicated to IPC. By contrast, the department's IPC strategy and policy work is done by about five staff, most of whom are not IPC specialists and have other responsibilities. The Office of the Chief Medical Officer of Health plays an important role, particularly in IPC surveillance. Other department functions become involved on matters such as compliance monitoring and health workforce issues, but their main focus is not on developing and implementing IPC strategies and initiatives. AHS has more resources, technical expertise and closer operational involvement to be better positioned to lead work on actions and initiatives under both strategies (e.g., develop and maintain IPC standards, IPC competencies and certification requirements for healthcare workers, and IPC surveillance system).

IPC strategy

The department does not have an adequate system to determine implementation expectations, targets, responsibilities and timelines. The department has provided us with an implementation plan for the IPC strategy dated September 2011 (for the period 2011–2013), which was described to us as a rolling three-year plan. This was the first implementation plan since the introduction of the IPC strategy in 2008. This plan has not been renewed since 2011; it does not set implementation targets and expectations, assign responsibilities or set timelines for specific actions and initiatives. This implementation plan discusses various general activities, described in broad terms, and does not outline what actions will be taken, when, by what entity and with what resources.

The department does not have an adequate system to monitor and report on the implementation of the IPC strategy, which is now halfway through its 10-year cycle. In 2012 the department engaged an external consultant to conduct a mid-point evaluation of strategy implementation. This evaluation was based on interviews with representatives of several key parties identified in the strategy and reviews of relevant documentation. The conclusion offered in the evaluation report was that progress had been achieved on seven of the 11 objectives and work was still needed on the remaining four. The evaluation report didn't provide detail on progress of specific initiatives under the strategy, which would be difficult to do in absence of the initial detailed implementation plans. Although this evaluation provides useful information on IPC developments in the province since 2008, it does not constitute an adequate system to monitor and report progress on strategy implementation.

Hand hygiene strategy

The department does not have an adequate process to ensure that work on specific actions under the hand hygiene strategy is on track. The department does not have an adequate system to determine implementation expectations, targets and timelines, and has not developed an implementation plan for the hand hygiene strategy since its introduction in 2008. The department does not have an adequate system to monitor nor has it reported on progress in implementing the hand hygiene strategy.

The hand hygiene strategy is not clear as to which entity is responsible for what actions under the strategy. The strategy identifies over 20 key partners (both specific and general types of organizations) ranging from specific provincial and federal government departments to industry, the not-for-profit sector and even local recreational organizations. With so many entities involved and a lack of clear expectations, we couldn't determine how the various organizations were to be involved, which actions they were responsible for, what their targets and expectations were, who provided the resources and how their progress was assessed.

There are several initiatives related to hand hygiene in which the department plays a key role. For programs funded by the department through grant agreements, the department receives periodic reporting that includes primarily financial data and general overview of activities performed. The most prominent example is the Do Bugs Need Drugs Program. The program involves education on the importance of hand hygiene, targeting a variety of audiences including healthcare professionals. This program was first introduced in 1999 in one of the former health regions. The program was extended to all of Alberta in 2005 and subsequently adopted in British Columbia. In 2013–2014 the department transferred the program's funding to AHS's budget.

The department developed the Clean Your Hands campaign in February 2010 as a workplace-based program within the Government of Alberta to increase awareness of hand hygiene practices and the spread of germs in Government of Alberta workplaces. The campaign included printing and distributing educational decals, which were to be placed in prominent locations in the workplace. Each decal

provided information on the importance of hand washing and a link to a website. The department expanded the campaign to non-government workplaces in 2011, making free decal kits and other information on hand hygiene available to any Alberta workplace. Known as the Institute for Hand Cleaning Knowledge, this campaign has its own website.¹⁸

Examples of actions and initiatives under the IPC strategy and the hand hygiene strategy

During our audit we observed that the department and AHS had taken a number of important steps to improve IPC service delivery (see Appendix B). However, without knowing the initial implementation expectations under the IPC and hand hygiene strategies, it was often not clear how these activities aligned with actions targeted by the strategies, or whether the level of activity was adequate. For example, we found the following:

- The department was to “implement mechanisms for monitoring compliance with provincial IPC standards.” As our findings under other recommendations show, there are weaknesses in compliance monitoring systems and no system to monitor compliance with the Methicillin-resistant *Staphylococcus aureus*¹⁹ Standards and Guidelines.
- The department was to “facilitate the development and certification requirements for all IPC professionals.” With funding support from the department, AHS aspires to provide its IPC specialists with certification in infection prevention and control.²⁰ However, at the time of our audit this was not a requirement for AHS and other healthcare service providers.
- AHS was to “achieve and sustain required staffing levels and resources for IPC.” IPC staffing requirements have not been clearly set (e.g., maximum number of beds per IPC specialist in acute care, continuing care). AHS aspires to achieve certain IPC staffing ratios based on guidelines from other jurisdictions, but these are not formally approved by the department either as requirements or guidelines.
- Health professional regulatory bodies had various actions to perform under the IPC strategy, including such actions as adopting IPC standards, monitoring compliance among their members and monitoring continuing competence of members regarding IPC. During our audit, we interviewed nurses and physicians at hospitals across Alberta, as well as their respective professional regulatory bodies. We did not find evidence that the department has adequately engaged these entities in implementing actions assigned to them under the IPC strategy.
- The department was to “develop strategies to enhance patient and worker safety, in collaboration with relevant government entities and other organizations.” While there is ongoing evolution of the already existing programs for IPC and occupational health and safety, it wasn’t clear whether any subsequent improvements achieved were a result of a conscious effort to implement the strategy.
- The department was to “implement the hand hygiene strategy across all sectors to improve accessibility to hand hygiene facilities.” Many actions under both strategies are worded broadly. Without clear action plans with implementation expectations that include targets, responsibilities and timelines, it is not possible to provide a meaningful assessment of progress.

Public reporting on success of the IPC strategy and the hand hygiene strategy

The department and AHS publicly report some high level IPC information for the province, such as provincial rates of certain infections and hand hygiene compliance rates. Internally, the department obtains important IPC information through AHS’s annual IPC reports, periodic IPC surveillance reports and ad hoc reporting of incidents to the Office of the Chief Medical Officer of Health. However, this

¹⁸ Alberta Health, Institute of Hand Cleaning Knowledge, website <http://www.health.alberta.ca/health-info/ihck/>

¹⁹ Methicillin-resistant *Staphylococcus aureus* (MRSA) is one of several antibiotic-resistant organisms that are often linked to hospital-acquired infections.

²⁰ Certification Board of Infection Control and Epidemiology Inc. <http://www.cbic.org/>

public and internal reporting does not provide an assessment of progress made in implementing the IPC and hand hygiene strategies.

Approach for managing the spread of antibiotic-resistant organisms (AROs) in the province

We also noted that the entire area of health risk associated with the spread of antibiotic-resistant organisms is not adequately dealt with in the IPC and hand hygiene strategies and the department has not identified a clear approach for managing the spread of AROs in the province. Antibiotic resistance is rapidly becoming one of the most critical risk areas related to IPC in Canada and internationally.

Globally, the prudent response has been to focus on antibiotic stewardship to control and prevent the number and virulence of AROs. In Alberta, the need for antibiotic stewardship is widely recognized among healthcare professionals, but no evidence-informed approaches exist in Alberta to set direction, develop action plans, implement systems and monitor and provide feedback on the success of an overall ARO stewardship plan. As part of its process to periodically review and revitalize its strategies for IPC, the department needs to focus on antibiotic stewardship within the province.

Implications and risks if recommendation not implemented

Without systems to set implementation accountabilities and monitor progress, the department cannot fully assess effectiveness of the IPC and hand hygiene strategies. The initial detailed action plans and subsequent progress reports are needed to determine whether IPC activities performed by various parties fully meet the implementation expectations for both strategies, what items remain outstanding, who is responsible and when the work will be finished.

Cleaning and disinfection of multiple-use medical devices

Background

Reusable medical devices, including endoscopes and various surgical instruments, are intended for multiple uses and with different patients. With each use, these devices can become contaminated with microorganisms. To protect the next patient from possible infection, the devices must be reprocessed—following a prescribed multistep process to clean and disinfect or sterilize the device. Medical device reprocessing (MDR) is done in a separate area of the hospital by staff specifically trained for and dedicated to the MDR function.

MDR in Alberta attracted considerable attention in March 2007 when the Vegreville General Hospital had to stop admitting new patients and shut down its reprocessing area. This was based in part on evidence that inadequately sterilized medical equipment was potentially exposing patients to blood-borne pathogens.²¹

In the wake of this incident, the department introduced provincial standards for MDR in 2008.²² The standards set overall expectations and basic requirements and refer to detailed standards provided by the Canadian Standards Association. However, the provincial standards are not a substitute for the detailed procedures and protocols needed to ensure effective operation of individual reprocessing sites.

The need to keep reusable medical equipment clean and disinfected or sterile is obvious. Medical devices vary in complexity and their cleaning, disinfection and sterilization may require the use of different procedures, use of specialized chemicals, or exposure to high temperature and pressure. Clear and consistent standards and practices are necessary to ensure hospital workers perform reprocessing correctly.

²¹ Health Quality Council of Alberta. Review of the Infection Prevention and Control and CSR Sterilization Issues in East Central Health Region. <http://publications.hqca.ca/preview/87> (July 2007)

²² See Appendix A for description of the strategies and standards.

Between 2010 and 2012, AHS's IPC division conducted on-site reviews of reprocessing practices at all AHS acute care facilities, including hospitals managed by Covenant Health. This was the first province-wide assessment of MDR. The reviews assessed compliance with MDR standards and identified areas needing improvement.

The department's June 2012 revision of the MDR standards set minimum qualifications for MDR personnel. The standards require all personnel working in MDR, and those who sterilize reusable medical devices, to be certified through one of two recognized certification programs by April 1, 2015.²³

RECOMMENDATION 2: CLEANING, DISINFECTION AND STERILIZATION OF MEDICAL DEVICES

We recommend that Alberta Health Services establish clear oversight and accountability for medical device reprocessing within and across zones to ensure consistent processes and accountability for reprocessing activities in Alberta.

Criteria: the standards for our audit

AHS should have adequate systems to ensure best practices for the cleaning, disinfection and sterilization of medical devices within Alberta hospitals, including systems to:

- establish policies and procedures for MDR, including education and training requirements for reprocessing staff
- ensure hospitals have facilities, equipment and supplies for proper MDR
- monitor compliance with MDR policies and procedures, and take appropriate, timely action to resolve any deficiencies

Our audit findings

KEY FINDINGS

- AHS took a positive and important step by introducing systematic reviews of MDR compliance at hospitals across the province.
- AHS does not have adequate systems to coordinate and oversee the work of individual reprocessing sites to ensure consistent processes and accountability for reprocessing of medical devices across the province, including timely action on identified MDR deficiencies.

MDR compliance reviews

AHS's MDR reviews conducted from 2010 to 2012 were the first systematic assessment of reprocessing practices across acute care facilities in Alberta. This was a significant step toward implementing a provincial system to monitor and ensure compliance with provincial MDR standards.

Given the value it obtained from these reviews, AHS management indicated that it intends to repeat these reviews periodically, and planning for the next review cycle was already underway. At the time of our audit, AHS was refining its review methodology.

Corporate oversight and accountability for MDR services in the province

AHS does not have a system to ensure adequate and consistent processes and accountability for medical device reprocessing across hospitals in the province. While some reprocessing sites at individual hospitals coordinate with each other, there is no corporate function, spanning all five zones, with responsibility for overseeing reprocessing across the province. For example, IPC and Environmental Services are AHS central corporate functions integrated directly into the management structure of

²³ As per Section 10.1 of the provincial standards, these are either the CSA Certification for Medical Device Reprocessing Technicians or the International Association of Healthcare Central Service Material Management Certification of Certified Registered Central Service Technicians.

individual hospitals. These functions set province-wide policies and procedures, offer expertise and specialized resources, and support consistent service delivery. MDR does not have the benefit of such a function. Reprocessing sites in individual hospitals, particularly smaller rural facilities, often operate in isolation from one another.

Although the provincial IPC function within AHS led the 2010–2012 review of reprocessing facilities, it is important to note that this function has no operational involvement in, and is not responsible for, MDR services. Management of MDR, and resolution of any deficiencies, falls solely under the responsibility of individual hospitals within each zone of AHS.

AHS's response to deficiencies identified during 2010–2012 MDR reviews

Individual reprocessing sites have acted on deficiencies identified in AHS's 2010–2012 MDR reviews. However, AHS does not have an adequate corporate system to ensure consistent, appropriate and timely action on deficiencies across sites.

For the 11 hospitals we visited, AHS's MDR reviews identified an average of 44 deficiencies per hospital (over 480 in total). The majority of deficiencies had to do with the lack of, or inadequate, reprocessing policies and procedures. Other areas requiring improvement were education and competency testing of MDR staff, documentation of reprocessing activity, and reprocessing area design and infrastructure.

Timeliness of response to deficiencies

At the time of our audit, AHS records indicated the following:

- About 12 per cent of all deficiencies (mostly medium risk) have not yet been resolved. Most of these deficiencies had to do with inadequate design and layout of the reprocessing areas.
- AHS's MDR review reports outlining deficiencies were provided to most sites more than five months after the review took place. Management recognizes feedback should be more timely in future MDR reviews.
- About 18 per cent of deficiencies were remediated on average eight months past their target completion dates. This was partially due to reporting delays noted in the previous point.

MDR policies and operating procedures

In response to MDR reviews, individual reprocessing sites developed policies, operating procedures and staff training documentation. However, AHS does not have an adequate system to ensure that these newly developed requirements are consistent and adequate across all reprocessing sites.

Supervisors of the reprocessing sites we visited developed or updated their policies, procedures and training to resolve deficiencies noted in the MDR reviews. For the most part, they were left to do this on their own, often duplicating their efforts and, with smaller rural sites, often unable to benefit from the expertise and specialized resources available at larger hospitals. AHS has no oversight mechanism to ensure the resulting policies and procedures are consistent and appropriate across the province. While some reprocessing sites coordinate informally with each other, this does not apply to all sites and does not constitute an adequate system.

Proper labeling of reprocessed devices

For the hospitals in our sample, the MDR reviews found six high risk deficiencies in total. Most of these related to failures to clearly label reprocessed devices to differentiate them from dirty ones, particularly endoscopes. AHS's records indicate three of these high risk deficiencies were fixed immediately, but the

other three took between nine and 70 days to resolve. We observed proper labeling practices in all the endoscope reprocessing areas we visited.

Documentation of MDR activity

Although we observed some level of documentation of reprocessing activities at the sites we visited, there was wide variation in what activities were documented and how. Several medium risk deficiencies identified in AHS's MDR reviews related to incomplete documentation of device reprocessing activity.

Good documentation is vital in investigating a suspected link between an infection and a medical device. It helps management know where, when and by whom the device was reprocessed, whether it was reprocessed with other devices and importantly, which patients had contact with the device.

MDR infrastructure

There is a significant gap in this area, but AHS already has systems to identify infrastructure needs across the province, including infrastructure for MDR. The progress in this area will primarily depend on availability of capital funding for MDR upgrades and renovations, which have to be prioritized in relation to other health infrastructure requirements.

Of the unresolved deficiencies at the hospitals we visited, the majority related to inadequate design and layout of the reprocessing areas. For about half of these deficiencies, reprocessing sites did not provide target implementation dates. In many cases, significant renovations and upgrades would be required. For example, some reprocessing sites, particularly at older hospitals, were not designed to accommodate a one-way work flow to ensure dirty equipment doesn't enter and contaminate clean areas. Examples of deficiencies that do not require major renovations include the need to replace work surfaces made of porous materials that are hard to clean and may harbour bacteria.

Implications and risks if recommendation not implemented

Proper reprocessing of medical devices is critical for patient safety. Without a strong provincial system to direct, coordinate, support and oversee individual reprocessing sites, AHS cannot ensure consistent and appropriate reprocessing of medical devices at Alberta hospitals.

Managing the spread of antibiotic-resistant organisms in hospitals

Background

Although antibiotic-resistant organisms (AROs) have always existed, they have become an increasingly serious problem. Both appropriate and inappropriate use of antibiotics selects out bacterial strains that are variably resistant to the effects of these medications. These bacterial variants, in turn, may spread globally and gradually become the dominant population. The successful introduction and use of antibiotic "miracle drugs" over the last 70 years has led to gradual emergence of increasingly resistant populations of microbes. This natural consequence of antibiotic use and misuse threatens to have significant impact on health and healthcare delivery.

However, effective IPC strategies and judicious use of antibiotics may help slow the development of new forms of AROs and may even help control the spread of infection during outbreaks.

Getting an ARO may have two potential outcomes:

- Colonization—The majority of individuals who acquire an ARO will carry the microbe but relatively few will develop an infection. That is, they are carriers or “colonized.” In time, carriage of the ARO may end as it is overgrown by the natural community of microbes and the individual ceases to be a carrier.
- Infection—A minority of individuals who acquire an ARO will develop an infection with it. Hospitalized patients are at increased risk of developing infection due to underlying illness, medical procedures or surgery and the impaired immunity resulting from illness or its treatment.

ARO surveillance

Prior to 2011, IPC surveillance in Alberta was fragmented among former health regions without an integrated provincial system. Alberta’s first province-wide surveillance system, called ProvSurv, provides critical capacity for real-time analysis of IPC surveillance data across Alberta hospitals. It also provides frontline IPC specialists with an indispensable tool for managing individual patient cases across hospitals, as well as ongoing monitoring and analysis of ARO trends at their assigned hospitals and units. Data on the following infections are currently being entered and tracked through separate modules within the ProvSurv system.²⁴

- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Vancomycin-resistant *Enterococcus* (VRE)
- Carbapenem-resistant *Enterobacteriaceae* (CRE)
- *Clostridium difficile* (*C difficile*)

For more information on these microorganisms see Appendix C.

ProvSurv is also used to monitor central venous catheter infections and surgical site infections for hip and knee replacements, the frequency of which are also reported quarterly as key performance indicators in AHS’s public reports. The system can also be expanded to include other types of infections that may be added to the provincial surveillance program in the future.

ARO management at Alberta hospitals

Generally, management of ARO risk at hospitals involves the following:

- Identifying and properly managing hospital patients with ARO, preventing transmission of ARO to other patients and healthcare workers, as well as identifying and managing outbreaks of ARO in hospitals.
- Minimizing the emergence of new and more resistant ARO strains through antibiotic stewardship processes and initiatives aimed at ensuring appropriate use of antibiotics in hospitals.

Identifying and managing hospital patients with ARO

In theory, if routine practices like hand washing were properly followed by hospital staff and patients, the risk of ARO transmission within a hospital would be low. However, as mentioned elsewhere in this report, compliance with routine practices remains an issue in acute care settings across the country. Hospitals use ARO screening and isolate patients with ARO to manage the risk of transmission.

There is an ongoing discussion in the healthcare profession on the best approach to identify and manage patients with ARO. For example, while it is generally agreed that every patient admitted to a hospital should be assessed for the risk of carrying an ARO (usually using a brief questionnaire and a

²⁴ ProvSurv also collects data on ARO colonization, but only infection rates are tracked and reported.

search for previous ARO diagnoses in the hospital database), there is not agreement among IPC experts on which patients should receive laboratory testing and when. Performing lab testing for ARO on every patient admitted to a hospital would be expensive and time-consuming. While there may not be a single approach to deciding which patients should be laboratory tested for ARO, it is generally agreed that healthcare organizations should ensure their adopted ARO screening approach is:

- evidence-informed and risk-focused
- aligned with provincial surveillance priorities to support consistent ARO data capture across hospitals

Similarly, the practice of placing patients with ARO on isolation precautions presents both positive and negative aspects. While it helps to reduce the risk of ARO transmission, it may also result in adverse consequences and negative experience for the patient, as they are likely to receive less direct contact with nurses and doctors. Proper isolation also requires availability of individual patient rooms. Isolation also requires additional staff time and equipment—both significant resource considerations. Isolation protocols adopted by healthcare organizations need to be evidence-informed and balance the benefits of isolation against possible negative outcomes and costs.

There is not yet consensus on the best approach to manage risk of AROs in Canadian hospitals. To inform the Alberta approach, the department, AHS and the Institute for Health Economics are collaborating to host a consensus conference in Alberta in June 2014, bringing together global experts to identify solutions for issues related to screening and control of AROs.

Environmental cleaning

Proper cleaning of patient rooms, units and various other areas within hospitals is critical to manage the spread of AROs, particularly at the time of an outbreak. Most hospital cleaning protocols require patient rooms and other critical areas to be cleaned on a daily basis. During outbreaks, high-touch areas on the affected units may have to be cleaned twice a day (e.g., door handles, light switches, counters and computer keyboards). The cleaning solution used must be appropriate to both wash away any dirt, and kill microorganisms. Various equipment used on patients, such as intravenous pumps and poles, stretchers, wheelchairs, furniture and patient chart binders, should also be cleaned using proper cleaners and procedures.

Antibiotic stewardship in hospitals

Excessive and inappropriate use of antibiotics has long been recognized as one of the key contributing factors to the rise and spread of AROs. The concept of antibiotic stewardship was formally used in a 1997 document published by Health Canada and the Canadian Infectious Diseases Society, which called for introduction of stewardship programs at Canadian hospitals to reduce overuse and misuse of antibiotics.²⁵

RECOMMENDATION 3: PREVENTION AND CONTROL OF ANTIBIOTIC-RESISTANT ORGANISMS

We recommend that Alberta Health Services improve its systems to manage risk posed by antibiotic-resistant organisms at hospitals, by:

- developing an evidence-informed approach for evaluating and aligning antibiotic-resistant organism policies and procedures in hospitals
- developing an approach to provide antibiotic stewardship in hospitals across the province

²⁵ Health Canada and the Canadian Infectious Diseases Society. Controlling antimicrobial resistance: An integrated action plan for Canadians (1997).

Criteria: the standards for our audit

AHS should have adequate systems to prevent and control the spread of antibiotic-resistant organisms in hospitals, including systems to:

- establish policies and procedures for managing ARO risk at hospitals
- carry out provincial surveillance activities and monitor effectiveness of practices aimed at ARO management in hospitals

Our audit findings**KEY FINDINGS**

- Implementation of the province-wide IPC surveillance program in 2011 was a positive and important step forward.
- AHS does not have a system for an evidence-informed evaluation and alignment of legacy policies and procedures in hospitals to ensure ARO risk is managed consistently across the province.
- Policies and procedures for cleaning of shared patient equipment on hospital units are inconsistent. In some cases the responsibility for cleaning such equipment is unclear. Cleaning of shared patient equipment on the units is generally not well documented.
- An approach to provide antibiotic stewardship across hospitals in the province has not been developed.

AHS has made important progress, particularly in the area of provincial ARO surveillance. However, we identified a number of weaknesses in AHS's systems to manage ARO risk at hospitals.

Provincial IPC surveillance system

AHS's implementation of the integrated provincial IPC surveillance system (ProvSurv) across all hospitals in the province in 2011 was a significant improvement not only in ARO surveillance, but in provincial IPC overall.

Although ProvSurv provides a strong foundation for provincial ARO surveillance, its reliability depends on the quality and completeness of information provided by ARO screening processes at the hospital and unit level across the province. As outlined below, many of these policies and procedures are based on legacy processes inherited by AHS from the former regional health authorities.

ARO policies, procedures and compliance with them

AHS progress in developing and standardizing ARO policies and procedures has been mixed. With the implementation of ProvSurv in 2011, AHS has significantly improved and standardized a provincial process for ARO surveillance reporting. However, AHS does not have a system to assess effectiveness and efficiency of existing ARO policies and procedures within hospitals, many of which are inconsistent and based largely on legacy processes inherited from the former regional health authorities. We are not advocating identical ARO policies and procedures at all sites because the level of patient safety risk may differ by size and location of a hospital and type of inpatient programs offered. The main issue we raise here is that AHS does not have a system for evidence-informed evaluation of existing hospital policies and procedures, and their alignment with the level of ARO risk involved.

Assessment of patients for ARO risk

While most hospitals in our sample had risk assessment questionnaire forms and required admission staff to check a hospital database for a patient's previous ARO records, we found the following:

- There is variation across hospitals in protocols and questionnaire forms used to assess patients for ARO. Most of these forms and protocols are legacy processes inherited by AHS from regional health authorities.
- AHS does not have a system to validate effectiveness and appropriateness of these various protocols. Without consistent and validated patient risk assessment protocols across the province, it is difficult to know whether some hospitals are better at reducing their ARO rates and in-hospital ARO transmissions, or whether their existing screening processes just don't identify these problems.
- AHS does not monitor the number of ARO screening tests done at each hospital. Analysis of this data could help AHS assess effectiveness of existing ARO risk assessment protocols at different hospitals and adjust them to ensure the testing is rigorous enough to ensure ARO risk is dealt with appropriately and consistently. For example, our review of AHS's ARO screening data suggests considerable variation in the volume and intensity of ARO lab testing done at different hospitals. However, AHS does not systematically extract and analyze this data to ensure that any variation in volume and intensity of ARO lab testing across hospitals is appropriate.
- Assessment of patients for ARO risk, and any lab testing that may be subsequently required, does not consistently happen as close as possible to the time of the admission (admissions usually take place through a hospital emergency department).
- AHS also does not have data on the cost of individual ARO tests or ARO testing in hospitals overall in order to better understand and manage financial requirements of ARO screening in the province.

Process to flag patients with AROs in hospital admission systems

Patients flagged as ARO-positive at one hospital may not be recognized as such when they are admitted to another hospital.

AHS's hospital admission systems are generally not linked with each other, with only limited interconnectivity across the province. As a result, ARO risk flags created by one hospital often do not follow patients when they are later admitted to other hospitals. The admitting hospital may unknowingly place an ARO patient that would otherwise be isolated into the general patient population. The problem may not be discovered until long after the admission, if at all, by which time the ARO may have spread to other patients.

Isolation precautions for patients with ARO

AHS has taken an important positive step by standardizing definitions for isolation precautions, as well as corresponding procedures for managing isolated patients. We observed that while patients were on isolation precautions, these standard definitions and procedures were applied consistently across the province with only few exceptions. In other words, once the decision has been made to isolate a patient, isolation precautions are consistent across the province.

We found inconsistencies across hospitals in how decisions to isolate patients are made and how isolation precautions are subsequently lifted. However, we are not advocating one ARO isolation approach over the other. Some variation may be appropriate if the level of patient safety risk differs. The main issue we raise is that AHS does not have a system for evidence-informed evaluation of existing isolation approaches and their alignment with the level of risk involved. Examples of inconsistencies include the following:

- Some hospitals and units isolate higher risk patients at the time of admission without waiting for the test results to arrive from the lab. Other hospitals test higher risk patients for ARO and place them into general patient population, isolating later only if lab results come back as ARO-positive, which could be several days later.
- We also observed differences in protocols for lifting isolation precautions. At some hospitals, only the assigned IPC specialists can order isolation precautions be lifted for individual patients, while at others the decision can be made by the unit nursing staff.

Following are some of the other observations we made during our hospital visits. These provide examples of good practices that we observed as well as opportunities for improvement:

- Standardized precaution signs were posted on rooms of isolated patients.
- In almost all cases, isolation carts containing the required supplies and personal protective equipment were situated outside of patients' rooms.
- On some units we observed that isolation carts were at times shared between two separate rooms with patients isolated for different AROs. This is inconsistent with AHS hospital procedures and increases the risk of cross-contamination.
- Management at hospitals indicated that due to space shortage some units have to cohort two or more patients with the same ARO into a single room. However, there may be more than one type of the same ARO. For example, placing two patients with different types of MRSA in a single room could result in cross-colonization. Some hospitals require laboratory analysis to determine types of MRSA prior to cohorting patients, while others do not follow this practice.
- While staff on most of the units mentioned that they educate patients with ARO on how to minimize the risk of transmission, few units document this process. We observed a good practice where some units have ARO fact sheets and instructions to provide to patients and their families.

Responding to and reporting ARO outbreaks

It is important to note that the process of identifying and assessing a spike or cluster in ARO cases is different from declaring and managing an outbreak.

Overall, systems used by hospital IPC specialists to identify unusual spikes in ARO activity on individual units are well designed and consistent across the province. These are the processes of the AHS's central IPC function and are operationally built around the central ProvSurv functionality.

Local hospital practices for declaring ARO outbreaks and protocols for responding to ARO problems vary considerably across hospitals, and are mainly based on legacy processes inherited by AHS. Our main issue is not inconsistency itself, but that AHS does not have a system to assess these varying processes to ensure that hospital ARO outbreak protocols are appropriate for the level of risk involved. For example, we found that some hospitals define several tiers or levels of outbreak response, while others do not. The level of available documentation and records for previous outbreaks vary considerably across hospitals. Further, AHS does not systematically analyze outbreaks after the fact to determine what went wrong and what worked best to fix the problem, and does not systematically prepare post-outbreak assessment reports in order to disseminate this knowledge to prevent and better manage similar problems at other hospitals.

ARO incident reporting

AHS does not have a system to capture information on failures in hospital processes for ARO screening and transmission prevention. A system that records ARO incidents that were near-misses, as well as those with negative outcomes, is a key feature of an effective IPC system because it indicates the nature and extent of failures in such primary controls as patient ARO risk assessment, lab testing of higher risk patients and isolating patients when appropriate.

Although AHS has a general incident reporting mechanism, it is not currently used for reporting of ARO incidents. AHS's Reporting and Learning System is a central online incident reporting mechanism for incidents and near-misses (e.g., medication errors, falls) that create safety risks to patients, healthcare workers or the public. However, there is no clear expectation that healthcare workers use the system for reporting ARO-related problems.

Nurses and physicians we interviewed indicated that if there was a problem related to AROs, they would discuss it with staff members in the relevant functional areas. Only a few individuals we interviewed could recall the reporting and learning system being used for reporting ARO-related incidents. Many of the physicians we interviewed either were not aware of the system or relied on nursing staff to formally report incidents.

Systems to ensure proper cleaning of patient rooms and shared equipment on hospital units

Cleaning of patient rooms and common areas in hospitals is the responsibility of Environmental Services, a centralized function within AHS. We found that expectations for cleaning of patient rooms and common areas are in place and are generally consistent.

However, we found a number of weaknesses in systems for cleaning of non-critical²⁶ shared patient equipment on hospital units (e.g., wheelchairs, IV poles, carts):

- Responsibility for cleaning of shared patient equipment on the units is not always clear. At some of the hospitals we visited it was not clear whether cleaning of particular pieces of equipment is the responsibility of the local unit staff or the environmental services staff. In the absence of corresponding cleaning policies, we had to rely on responses from hospital staff, who often sounded uncertain.
- Hospitals we visited generally lacked formal procedures for cleaning shared patient equipment and documentation of the cleaning activity. Without it, the units could not demonstrate that the cleaning method and frequency were appropriate.
- We had similar findings regarding cleaning of frequently touched areas not used by patients (e.g., computer keyboards, phones, patient chart binders and other equipment used primarily by healthcare workers).

We noted that the environmental services function has a centralized provincial system to train cleaning staff and a system to periodically inspect quality of cleaning. Although we did not audit the implementation of this training and compliance monitoring, it is important for ensuring that consistent and adequate cleaning is done at hospitals across the province.

²⁶ Non-critical patient equipment is defined as "a Medical Device which either touches only intact skin but not mucous membranes, or does not directly touch the Client." Alberta Health Single-use medical devices as applied to semi-critical and critical medical devices. See <http://www.health.alberta.ca/documents/IPC-Medical-Device-Single-Use-2011.pdf> (2012)

Antibiotic stewardship in hospitals

Finally, we note that an approach to develop antibiotic stewardship across hospitals in the province has not been developed. Beginning in 2013, Accreditation Canada has added an antibiotic stewardship program to the list of required organizational practices for providers of inpatient acute care services.²⁷ AHS is well-positioned to implement some of the processes that were identified as important elements of antibiotic stewardship in hospitals.²⁸ See Appendix D for a summary of objectives of antibiotic stewardship in hospitals and examples of key systems and initiatives. Although some of the existing programs, such as the Do Bugs Need Drugs program, play an important role, their primary focus is general education and promotion, and they do not constitute a hospital antibiotic stewardship program. The following factors are critical for the success of hospital antibiotic stewardship:

- IPC resources and expertise—As one of the largest healthcare service delivery organizations in the country, AHS has a critical mass of IPC resources and some of the country's top IPC expertise.
- Access to pharmacy prescription data—AHS and the department have access to data for almost all antibiotic prescriptions in the province. Systems to share, analyze and use this data are critical to improving antibiotic use practices in hospitals.
- Access to laboratory data—AHS has either direct control over, or access to, all of its inpatient laboratory data. There are several lab service providers in the province and strong systems to extract, analyze and use this data are key to identifying patterns of antibiotic resistance and helping prescribers make more informed decisions.
- Support from and involvement of physicians and pharmacists—Participation of these two professional groups will be important for the success of antibiotic stewardship initiatives.

Implications and risks if recommendation not implemented

Antibiotic-resistant organisms in hospitals pose serious, and in some cases life-threatening, health risks to patients and healthcare workers. Infections caused by AROs also consume significant hospital resources in terms of staff time, supplies, isolation space, laboratory testing and pharmaceuticals. Strong systems to identify and manage patients with AROs can help AHS improve quality of patient care and reduce hospital costs overall.

Hand hygiene

Background

Proper hand hygiene is the most important element of an effective IPC system. When done correctly, hand hygiene is the single most effective way to prevent the spread of communicable diseases and infections. Hand hygiene may be done with soap and running water, or an alcohol-based hand sanitizer. Hand sanitizers are preferred if hands are not visibly dirty or when caring for someone with a non-contagious illness. However, hand sanitizers are not effective in killing spores of organisms such as *Clostridium difficile*²⁹ which require hand washing with soap and water.

It may sound strange, but proper hand washing requires formal instruction and demonstration.³⁰ For example, a five-second rubbing with a drop of soap between the palms likely leaves large areas of the hands contaminated with potentially harmful microorganisms. Proper technique is important because incorrect hand washing can give a false sense of security to healthcare workers and their patients.

²⁷ Accreditation Canada. *Required Organizational Practices Handbook*. [http://www.accreditation.ca/uploadedFiles/ROP-Handbook-en\(1\).pdf](http://www.accreditation.ca/uploadedFiles/ROP-Handbook-en(1).pdf) (2013)

²⁸ Health Canada and the Canadian Infectious Diseases Society. *Controlling antimicrobial resistance: An integrated action plan for Canadians* (1997)

²⁹ A bacteria that can cause symptoms ranging from diarrhea to life-threatening inflammation of the colon.

³⁰ Alberta Health Services. *Hand Hygiene - Level 1 (PS-02-01)* <http://www.albertahealthservices.ca/6426.asp> (October 2011)

In AHS and elsewhere in Canada key situations when hand hygiene is required are referred to as “Your 4 Moments for Hand Hygiene”:³¹

1. *Before contact with a patient or patient’s environment*—including putting on personal protective equipment (PPE), entering a patient’s room and providing patient care
2. *Before a clean or sterile procedure*—including wound care, handling intravenous devices and handling medications or food
3. *After exposure (or risk of exposure) to blood and/or body fluids*—including instances when hands are visibly soiled or gloves are removed
4. *After contact with a patient or patient’s environment*—including removing PPE, leaving a patient’s environment and handling patient care equipment

Hand hygiene compliance

Although links between hand hygiene and infections have been established as early as 1847,³² rates of compliance with proper hand hygiene practices tend to be low for healthcare workers in Canada.

AHS’s introduction of annual hand hygiene reviews in 2011 was Alberta’s first province-wide, systematic mechanism to measure and report on hand hygiene compliance for hospital healthcare workers. The reviews provide specific, detailed hand hygiene compliance data for all hospitals, including individual units in the hospitals and different categories of healthcare workers in the units.

AHS’s 2010–2011 compliance review found an overall hand hygiene compliance rate of 50 per cent, with significant variation among zones. The following year, compliance had increased to 58 per cent.³³ Average hand hygiene compliance rates in 2012 by category of healthcare professional were: nurses – 63 per cent; physicians – 43 per cent; other providers – 50 per cent. By hospital unit, the highest average compliance rate was in neonatal intensive care at 79 per cent, with pediatrics second at 70 per cent. The lowest average compliance was in women’s health at 48 per cent, with mental health, brain injury and addictions second lowest at 49 per cent.

Average rates of hand hygiene compliance before patient contact (47 per cent) and before performing clean/sterile procedures (46 per cent) were considerably lower than after patient contact (60 per cent) and after contact with blood/body fluids (68 per cent). This suggests workers may be more aware of hand hygiene risks if they perceive their own health may be at risk.

Although these compliance rates only present a point-in-time snapshot and the healthcare workers knew they were being observed, the data helps identify areas where hand hygiene rates are low and patient safety risk is high. Comparing annual reviews over time also provides a useful measure of overall progress.

How Alberta compares to other Canadian jurisdictions

A 2008 Canadian Institute of Health Information study found only 30 to 60 per cent of the staff at Ontario acute care hospitals followed proper hand washing practices.³⁴ In 2013, Ontario reported a provincial

³¹ “Your 4 Moments for Hand Hygiene” was introduced by the Ontario Ministry of Health and Long-term Care as part of its 2008 Just Clean Your Hands Campaign. See <http://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/JustCleanYourHands/Pages/Just-Clean-Your-Hands.aspx>.

³² T.Noakes, J.Borrenson. Semmelweis and the aetiology of puerperal sepsis 160 years on: an historical review. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2870773/>

³³ A 58 per cent compliance rate does not mean 42 per cent of healthcare workers failed to perform hand hygiene. It means healthcare workers did not perform hand hygiene in 42 per cent of the situations where it was required.

³⁴ Canadian Institute of Health Information. Patient Safety in Ontario Acute Care Hospitals. https://secure.cihi.ca/free_products/PSAF_AIB_2008_10_23_e.pdf (October 2008)

rate before contact with the patient or patient's environment of 80.5 per cent,³⁵ while British Columbia reported an observed hand hygiene compliance rate of 65 per cent before contact with the patient and an overall hand hygiene rate of 70 per cent.³⁶

Healthcare worker's perspective

Healthcare workers have a strong desire to do the right thing for their patients, but face several challenges in the area of hand hygiene:

- The most formidable obstacle for hand hygiene compliance is likely personal reluctance to change established practices and habits. For example, most of us know we should wash our hands before eating, yet we don't always do so. Sustainable improvement in hand hygiene among healthcare workers is a gradual process. A key driver of success has been change from within the medical profession, particularly through peer pressure from other healthcare professionals. Continuous education and training are also important. However, increased awareness and availability of sinks and sanitizers only make a difference if individuals choose to use them. Establishing clear expectations, personal accountabilities and mechanisms to monitor compliance are also critical in ensuring proper hand hygiene practices are followed.
- Proper hand hygiene is often not top-of-mind because the impact of not properly washing one's hands is often not immediately apparent. Because it is difficult to establish the source of a subsequent infection, adverse outcomes suffered by patients as a result of poor hand hygiene may not be recognized by healthcare workers.
- Hand washing takes time. With healthcare workers having to move between patient rooms and switch tasks frequently, hand washing time adds up. During our hospital visits we were told that, depending on a unit's workflow design, nurses may have to wash their hands over 200 times per shift to comply with current guidelines. If a proper hand wash takes 20 seconds, this would total more than an hour per shift based on current workflow practices. In some cases, workflow redesign could potentially reduce required hand hygiene frequency.
- Frequent hand washing and alcohol-based hand sanitizers are hard on the skin. Although hand lotions can help, this remains a concern voiced by some healthcare workers. While alcohol-based hand sanitizer used at the hospitals we visited has a moisturizing component, some healthcare workers don't like the residue it leaves on their hands.

RECOMMENDATION 4: HAND HYGIENE PRACTICES

We recommend that Alberta Health Services improve its systems for hand hygiene by:

- clarifying responsibility and accountability for improving hand hygiene compliance across hospitals
- using available data, on a risk-focused basis, to identify hospital units with poor compliance and take appropriate remedial action
- strengthening the infection prevention and control orientation and training provided to hospital healthcare workers

³⁵ Ontario Ministry of Health and Long Term Care Patient Safety Indicators. <http://www.hqontario.ca/public-reporting/patient-safety>

³⁶ Provincial Infection Control Network of British Columbia. Hand cleaning compliance in BC acute care facilities. Fiscal year 2012/13. http://www.picnetbc.ca/uploads/files/surveillance/BC_HandCleaningCompliance_2012_2013%20Annual.pdf (2013)

Criteria: the standards for our audit

AHS should have systems to ensure best practices in hand hygiene within Alberta hospitals, including systems to:

- establish hand hygiene policies, procedures and ensure education and training on hand hygiene practices are available to healthcare workers
- monitor compliance with hand hygiene requirements by hospital healthcare workers and take action to improve hand hygiene compliance in areas of poor compliance and highest risk to patients, healthcare workers and the public
- ensure hospitals have adequate hand hygiene facilities, equipment and supplies

Our audit findings

KEY FINDINGS

- There has been increased management focus on IPC in general, and hand hygiene in particular, over the last several years.
- AHS's province-wide hand hygiene compliance reviews are an important step forward. Compliance data is now available for each hospital unit and healthcare worker category. However, AHS does not have a system to use hand hygiene compliance data effectively to drive improvement at hospital units with low hand hygiene compliance rates and highest risk.
- AHS does not have a strong corporate process to set expectations for improving hand hygiene compliance at the unit and hospital level, assign responsibility for achieving results, and hold management accountable from the hospital unit to the senior corporate level.
- AHS has an extensive suite of IPC education and training resources, but does not have adequate systems to deliver it to healthcare workers, in particular:
 - systems to focus resources and training in areas of lowest hand hygiene compliance and highest patient safety risk
 - physicians working in hospitals receive no standard orientation or training on IPC policies, procedures and practices

Focus on hand hygiene

Since its formation in 2009, AHS has placed strong emphasis on improving its IPC systems and hand hygiene in particular. Frontline hospital workers we interviewed consistently indicated there has been a stronger organizational focus on hand hygiene in recent years.

Monitoring hand hygiene compliance

We found AHS's hand hygiene compliance review process is generally well designed and reviews are done consistently. However, AHS does not have a system to use hand hygiene compliance data effectively to drive improvement at hospital units with low hand hygiene compliance rates and highest risk. We did not find a strong corporate process within AHS to set expectations for improvement at the unit and hospital level, assign responsibility for achieving results, and hold management accountable from the unit to the senior corporate level.

There are several AHS management structures involved in hand hygiene compliance.

Central IPC function

The IPC function does not have corporate responsibility and accountability for improving hand hygiene compliance on hospital units. AHS's hand hygiene reviews are managed by the central IPC function. IPC provides the results to management and staff at hospitals and individual nursing units—the level at which improvement needs to take place. Local IPC specialists are expected to provide expertise and support required by hospital administration and individual nursing units.

Hospital management across zones

We did not find a provincial mechanism to ensure consistent expectations and adequate action at the unit and hospital level across zones. AHS is organized geographically into five zones: Edmonton, Calgary, North, Central and South. Individual hospital units report to their hospital management, who in turn report to zone management. Zone management reports to AHS's senior executive management. The authority and responsibility for hand hygiene improvement ultimately rests with individual hospitals, starting with management at the individual unit and program level.

Cross-functional IPC committees

Cross-functional IPC committees at the provincial and zone levels, as well as hand hygiene committees at the zone level, have been tasked with preparing hand hygiene action plans for each zone. These action plans are AHS's primary mechanism for responding to the low levels of compliance identified in the reviews. However, we noted significant deficiencies in this process:

- The cross-functional IPC committees do not have authority to hold individual units and hospitals accountable for meeting hand hygiene compliance targets. Our review of committee meeting minutes and other documents found they play an important role in information sharing, discussing challenges and coordinating work across functions, but they are not a central function through which hospital program areas and units are held accountable for improving their hand hygiene compliance.
- Progress in developing hand hygiene action plans has generally been slow. At the time of our audit, some zone hand hygiene plans were not complete and compliance benchmarks for most zones were not established.
- Activities in zone action plans tend to focus on education and promotion, and do not describe concrete actions for hospital units and programs with low compliance rates, or how failures to meet minimum targets will be dealt with.
- Some action plans mention overall compliance targets ranging from 75 to 90 per cent, depending on the zone. Such targets do not consider the varying levels of patient safety risk on different hospital units. For example, post-surgery patients tend to be more vulnerable, so hand hygiene compliance targets and actions may need to be more aggressive on those units.

In its quarterly performance reports, AHS reports publicly on hand hygiene compliance rates for selected hospitals and the province as a whole.³⁷ Hand hygiene rates by site reveal wide variation between hospitals across the province. In 2012, some hospitals had well over 60 per cent compliance in situations before patient contact, while others were barely over 30 per cent.³⁸

³⁷ Alberta Health Services Q4 Performance Report 2012/13, page 88. <http://www.albertahealthservices.ca/Publications/ahs-pub-pr-2013-06-performance-report.pdf>

³⁸ AHS's review process does not include hospitals managed by Covenant Health, which represent about 10 per cent of the acute care beds in the province. Covenant performs its own hand hygiene reviews using similar methods. AHS receives Covenant's compliance results and IPC functions of both organizations work closely with each other.

At the service delivery level, we did not see evidence of a coordinated, risk-focused process during our hospital unit visits. Individual units varied considerably in their response to their compliance results. Improvements tended to be driven by the initiative of individual unit managers, staff and their assigned IPC specialists. Some hospitals and units took concrete action to get additional training, post their compliance rate on the unit for staff and visitors to see, recognize and reward proper hand hygiene, and closely monitor compliance to drive improvement. Others adopted more passive approaches such as telling their staff that information on hand hygiene is available on AHS's website, or putting more posters on the walls.

Hand hygiene policies, procedures and training

AHS has developed standardized hand hygiene policies, procedures and education materials for hospital staff across the province. However, we found weaknesses in AHS's systems to ensure healthcare workers receive adequate training, including:

- limited focus on IPC during the initial training and orientation provided to newly hired staff
- no adequate systems to ensure IPC training is included in annual refresher training for its current staff
- no adequate systems to provide IPC orientation training to physicians working in hospitals

Education and training materials

AHS has developed and introduced a variety of training and educational resources on IPC in general and hand hygiene in particular. Most of these resources are available to healthcare workers and the public on the AHS website.³⁹ Posters reminding healthcare workers, patients and visitors to wash their hands were present at all the hospitals and nursing units we visited.

Orientation training for new staff members

The time dedicated to IPC during orientation training for new hires is about three minutes. In this amount of time, only basic IPC information, pamphlets and weblinks can be provided. It does not allow hands-on demonstrations or practice in proper hand washing or use of personal protective equipment. AHS's central education and training function does not manage or track any additional IPC training that may be provided across sites.

We did not see a consistent and systematic effort to have IPC specialists deliver hands-on education and demonstrations. Almost all healthcare workers we interviewed indicated such training is particularly effective and has a more lasting impact than online tutorials alone. One of the effective training methods is the "glow germ" demonstration using a substance that glows under UV light to show how and where germs can spread if proper hand hygiene is not followed. For example, it shows healthcare workers why they should wash their hands before putting gloves on—an unwashed hand reaching into a box of gloves can contaminate the entire box and place patients at increased risk of infection.

Annual training refreshers

Annual IPC training refreshers are not mandatory and individual units have considerable discretion on any additional training their staff takes. AHS does not centrally track IPC refresher training provided across the province.

Physician orientation and training

The majority of physicians who work at hospitals are not AHS employees and do not receive orientation and training similar to AHS's new hires. This may explain why hospital physicians we interviewed tended to be less aware of AHS's policies, procedures and training resources than other healthcare workers.

³⁹ For resources available on hand hygiene, see <http://www.albertahealthservices.ca/6426.asp>

Remedial training

AHS does not systematically focus the available hand hygiene education and training resources on areas of highest risk. There is no consistent process to identify units with poor compliance to ensure their personnel receive additional training or hands-on demonstrations. Such efforts are driven mainly by the individual units and IPC staff, rather than a systematic organization-wide process. AHS has several online interactive educational resources that could be made mandatory on units with low hand hygiene rates. Some training modules on AHS's website⁴⁰ include a final quiz that can be used to confirm completion of training. We found many frontline personnel were not aware of this training and only one nursing unit in our sample required its staff to complete it.

Hand hygiene equipment and supplies

Overall, acute care facilities across the province are working toward gradual improvement in availability and access to alcohol-based hand sanitizer and dedicated sinks for hand washing. Although infrastructure challenges remain, their resolution is subject to availability of funding for capital projects, particularly when it comes to plumbing upgrades. However, decisions about the use and placement of sanitizer dispensers are generally within the direct control of hospital staff.

Alcohol-based hand sanitizer stations are not always placed at the point of care as required by Accreditation Standards.⁴¹ During our visits we observed that wall-mounted sanitizer dispensers were present throughout hospitals, including hallways on nursing units. However, not all hospitals had hand sanitizers placed conveniently at the point of care inside patient rooms. Although some nursing units informed us fire regulations or the patient's condition prevented wall-mounted sanitizers at bedside, other units used alternatives such as portable sanitizers.

Availability of hand hygiene sinks on hospital units remains an issue, although the situation is improving and AHS has a process to incorporate IPC needs into new hospital construction and renovation projects. Older hospitals, on the other hand, were clearly not built to modern IPC standards and in most cases it is simply not practical to initiate renovations to install plumbing for extra hand hygiene sinks in patient rooms. IPC specialists we interviewed indicated that there has been gradual improvement in the process to incorporate their input and IPC requirements in the design of new facilities and major renovation projects. Hand hygiene infrastructure limitations do not preclude proper hand hygiene, but make it more onerous and time consuming for healthcare workers to comply with hand washing requirements.

Good practices observed

We observed several good practices at individual hospitals and units we visited. Although not universally applicable, we considered them deserving of management's further support and encouragement:

- Some units posted their hand hygiene compliance rates on a wall at the nursing station or in the staff meeting room. This raises awareness and encourages proper hand hygiene by unit staff. Larger posters in more visible areas, such as the entrance to the unit, could make this practice even more effective not only with unit staff but everyone who visits the unit.
- Many hospitals and units have initiated their own reviews of hand hygiene practices on a monthly and even bi-weekly basis, with observations usually done by local nurses. Some sites make efficient use of nurses on modified work duty who would otherwise not be able to work due to an injury. Results are shared among the unit's staff, who identify problems and propose solutions. Such initiatives

⁴⁰ Training modules: <http://www.albertahealthservices.ca/employee/modules/cleanyourhands/index.html>

⁴¹ Accreditation Canada. IPC Standards, Section 6.4 (January 1, 2012)

complement province-wide reviews by enabling local staff to take ownership and initiative in improving performance.

- On two units we visited, the staff placed tape on the floor across the doorway of a patient's room or several feet into the room to mark the point beyond which hands must be washed. Healthcare workers can come to the line and talk to a patient or nurse inside the room without having to wash hands, thus saving time without creating a risk to patients or themselves. Unit hand hygiene compliance has reportedly increased since this was introduced.
- Physicians we interviewed indicated some of their peers have taken on the role of hand hygiene champions to raise awareness and increase the generally low compliance rates among doctors. At one hospital, one of the postgraduate trainees (residents) was the designated hand hygiene champion.

During rounds it was his/her responsibility to remind his/her peers to follow proper hand hygiene if they did not. All physicians in this group also had pins clearly visible on their coats saying it was okay to ask them if they had washed their hands. We consistently heard the following:

- Hand hygiene champions from within the physician group tend to be most effective in changing hand hygiene behaviour because they lead by example. The champions create positive peer pressure that is more likely than influences outside of the physician group to shift habits and improve hand hygiene rates among doctors.
- Seeing hard data on hand hygiene compliance is important to most physicians and is more effective than simple reminders when it comes to increasing awareness and facilitating positive change.
- Periodic training on hand hygiene for all healthcare workers, including physicians, is important for breaking bad hand hygiene habits and forming good ones.

Implications and risks if recommendation not implemented

Proper hand hygiene is the single most effective way to prevent the spread of communicable diseases and infections. Without adequate systems to set hand hygiene expectations and targets, provide training and ensure compliance among healthcare workers, hospital patients face higher risk of a serious infection.

OVERVIEW OF THE IPC AND HAND HYGIENE STRATEGIES AND THE FOUR IPC STANDARDS

IPC Strategy

The department's 2008 *Alberta Infection Prevention and Control Strategy*⁴² outlines the overall roles and responsibilities of the department, AHS and Alberta health professional regulatory bodies as follows:

- The department is responsible for setting direction and standards for the healthcare system and overseeing their implementation.
- AHS is responsible for assessing needs, promoting and protecting the health of their population, preventing disease and injury and delivering safe, quality healthcare services. This includes implementation of standards and direction provided by the department.
- Health professional regulatory bodies are responsible for governing their regulated members in a manner that protects and serves the public interest.

The IPC strategy provides the following six strategic directions:

1. Leadership and accountability
2. Provincial standards and monitoring
3. Province-wide surveillance
4. Human resource requirements
5. Physical infrastructure
6. Public awareness and education

Hand Hygiene Strategy

The department's 2008 *Alberta Hand Hygiene Strategy*⁴³ is a 10-year plan designed to improve hand hygiene behaviours in Alberta. It outlines actions needed to improve accessibility to hand hygiene facilities and to improve hand hygiene knowledge beliefs, attitudes and behaviours. This strategy provides the following five strategic directions:

1. Access to hand hygiene facilities and products
2. Provider education and training
3. Child education and training
4. Public and community education and awareness
5. Evaluation and research

⁴² Alberta Health and Wellness. *Alberta Infection Prevention and Control Strategy* <http://www.health.alberta.ca/documents/IPC-Alberta-Strategy-2008.pdf> (January 2008)

⁴³ Alberta Health and Wellness. *Alberta Hand Hygiene Strategy* <http://www.health.alberta.ca/documents/IPC-Hand-Hygiene-Strategy-2008.pdf> (January 2008)

IPC standards

The department has approved four IPC standards in Alberta:

- *2011 Standards for Infection Prevention and Control – Accountability and Reporting*⁴⁴
This document outlines IPC accountability relationships and reporting requirements internally within AHS and externally in relation to the department.
- *2012 Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for All Healthcare Facilities and Settings*⁴⁵
These standards set minimum requirements for all healthcare facilities and settings.
- *2008 Standards for Prevention and Management of Methicillin-resistant Staphylococcus aureus*⁴⁶
Methicillin-resistant *Staphylococcus aureus* (MRSA) is one of several antibiotic-resistant organisms that are often linked to hospital-acquired infections. These standards set minimum requirements for managing clients infected or colonized with MRSA for all healthcare facilities and settings. These standards deal with matters such as managing the risk of transmission, patient screening, infection surveillance and outbreak reporting. These standards are supported by the 2007 *Provincial Methicillin-resistant Staphylococcus aureus (MRSA) Infection Prevention and Control Guidelines*,⁴⁷ which provide best practices (not requirements) for managing patients infected with MRSA and for reducing transmission of MRSA.
- *2011 Standards for Single-use Medical Devices: As Applied to Critical and Semi-critical Medical Devices*⁴⁸
These relatively brief standards outline requirements for use and handling of single-use medical devices, as well as generally prohibit reprocessing and reuse of single use medical devices on other patients (with some exceptions).

⁴⁴ Alberta Health and Wellness. Standards for Infection Prevention and Control – Accountability and Reporting. <http://www.health.alberta.ca/documents/IPC-Accountability-Reporting-2011.pdf> (May 12, 2011)

⁴⁵ Alberta Health. Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for Health Care Facilities and Settings. <http://www.health.alberta.ca/documents/IPC-Medical-Device-Cleaning-2012.pdf> (June 2012)

⁴⁶ Alberta Health and Wellness. Standards for Prevention and Management of Methicillin-Resistant *Staphylococcus aureus*. <http://www.health.alberta.ca/documents/IPC-MRSA-Standards-2008.pdf> (January 16, 2008)

⁴⁷ Alberta Health and Wellness. Provincial Methicillin-Resistant *Staphylococcus aureus* (MRSA) Infection Prevention and Control Guidelines. <http://www.health.alberta.ca/documents/IPC-MRSA-Guidelines-2007.pdf> (August 2007)

⁴⁸ Alberta Health and Wellness. Standards for Single-use Medical Devices: As Applied to Critical and Semi-Critical Medical Devices. <http://www.health.alberta.ca/documents/IPC-Medical-Device-Single-Use-2011.pdf> (February 18, 2011)

Appendix B

DEVELOPMENTS IN IPC SERVICE DELIVERY IN ALBERTA

- The department has introduced four provincial standards for IPC (the IPC strategy lists seven initial priorities for development of standards), including the accountability and reporting standards for AHS.
- AHS has created the organizational structures and assigned executive roles, as outlined in the *IPC Accountability and Reporting Standard*,⁴⁹ and starting in 2011 has provided annual IPC compliance reports to the department.
- With input from the department, AHS has implemented the provincial IPC surveillance system and is working on improving processes for data collection, analysis and reporting.
- The department provides the IPC education grant to AHS. As of September 30, 2012 total expenditures for the grant amounted to about \$1.7 million.
- Since 2005 the department funds Do Bugs Need Drugs Program,⁵⁰ a significant part of which is hand hygiene promotion and education.
- In 2010 the department also launched the Clean Your Hands Campaign, a workplace-based program within the Government of Alberta, and has subsequently taken steps to expand the program to non-government workplaces.
- AHS has implemented the annual hand hygiene compliance review process for acute care facilities.
- AHS has performed systematic reviews of medical device reprocessing across acute care sites in the province.
- The creation of AHS as a single entity has resolved some of the issues around coordination, roles and responsibilities among previous health regions, and has provided the surge capacity needed during serious IPC incidents and outbreaks.

⁴⁹ Alberta Health and Wellness. Standards for Infection Prevention and Control – Accountability and Reporting. <http://www.health.alberta.ca/documents/IPC-Accountability-Reporting-2011.pdf> (May 12, 2011)

⁵⁰ Do Bugs Need Drugs. <http://www.dobugsneeddrugs.org/>

ADDITIONAL INFORMATION ON MRSA, VRE, CRE AND *C DIFFICILE*

Methicillin-resistant *Staphylococcus aureus*

MRSA is a bacteria that is usually found in the nose, but can also be present in the respiratory tract, the urinary tract, open wounds and intravenous (vein) catheter sites. MRSA is not more virulent than other strains of *Staphylococcus aureus*, but its resistance to common antibiotics⁵¹ makes it more difficult to treat and therefore more dangerous. Patients with open wounds, invasive devices and weakened immune systems are at greatest risk of infection with MRSA.

Vancomycin-resistant *Enterococcus*

VRE is a strain of *Enterococcus* bacteria that is highly resistant to vancomycin⁵² and is usually found in the gastrointestinal tract. VRE infections occur most commonly in hospital patients with weakened immune systems. Patients previously treated with vancomycin or other antibiotics for long periods of time, have had surgery or have medical devices such as urinary (bladder) catheters, are at higher risk for VRE.

Carbapenem-resistant *Enterobacteriaceae*

Species of *Enterobacteriaceae* are normally present in the human gastrointestinal system. CRE is a strain of *Enterobacteriaceae* that are difficult to treat due to their high level of resistance to antibiotics.⁵³ Healthy people usually do not get CRE infections. In healthcare settings, CRE infections most commonly occur among patients who are receiving treatment for other conditions. Patients whose care requires devices like ventilators (breathing machines), urinary catheters, or intravenous catheters, and patients who are taking long courses of certain antibiotics are most at risk for CRE infections.

Clostridium difficile

This is a bacteria that strictly speaking is not an antibiotic-resistant organism. However, *clostridium difficile* infection can be severe, particularly in hospitalized patients. It results from treatment with antibiotics. These bacteria are common inhabitants of the gastrointestinal tract and their mere presence does not cause illness as their growth is contained by other microbes. However, treatment with antibiotics for any purpose may disrupt the natural microbial population, allowing overgrowth and toxin production by *clostridium difficile*. A diarrheal illness may result, varying from mild to extremely severe and even life-threatening. Patients in hospital are at particular risk since many individuals in hospital will receive a course of antibiotics and many are compromised by their underlying disease and its treatment. *Clostridium difficile* produces spores that contaminate the environment, are difficult to eradicate and may put future hospitalized patients at risk.

⁵¹ In particular, MRSA is resistant to penicillins and cephalosporins, two groups of the most widely prescribed broad-spectrum antibiotics.

⁵² Vancomycin is a naturally occurring antibiotic first isolated in 1953. It was originally used to treat MRSA and it continued for many years to be used as a drug of last resort after treatment with other antibiotics had failed. However, vancomycin-resistant organisms have become increasingly common in recent years.

⁵³ Centers for Disease Control and Prevention. Healthcare-associated Infections, Carbapenem-resistant Enterobacteriaceae <http://www.cdc.gov/hai/organisms/cre/>

SUMMARY OF OBJECTIVES OF ANTIBIOTIC STEWARDSHIP IN HOSPITALS AND EXAMPLES OF KEY SYSTEMS AND INITIATIVES

Following the national consensus conference on antibiotic resistance in 1997, Health Canada and the Canadian Infectious Diseases Society have published the document titled “Controlling Antimicrobial Resistance: An integrated action plan for Canadians.” The document calls for development of antibiotic stewardship initiatives in Canadian hospitals. Overall, the objective of such interventions would be to systematically detect and eliminate:

- unnecessarily redundant multidrug regimens
- antibiotic therapy for the management of nonbacterial syndromes
- use of antibiotics of inadequately or excessively broad spectrum for the specific infection syndromes
- medication regimens that do not adequately treat infections caused by confirmed pathogens

Among other things, the document highlights the following key elements of antibiotic stewardship in hospitals:

- Access to expert resources on antibiotic use, including capacity for case consultations and introduction of antibiotic-use protocols and formulary restrictions for prescribing certain types of antibiotics.
- Systems to monitor, benchmark and report the use of antibiotics within individual hospitals and at the organizational level.
- Systems to provide prescribers with feedback on their own antibiotic use data.
- Systems to analysis and use of lab data. This would include analysis of laboratory data for prevalence of microorganisms in different patient populations and their responsiveness to specific antibiotics. This information can help prescribers make better informed treatment decisions.



Stand-alone Systems Auditing — Follow-up Audits

REPORT OF THE AUDITOR GENERAL OF ALBERTA

October 2013

Agriculture and Rural Development, Health and Alberta Health Services— Provincial Food Safety Follow-up

Notice to readers:

This report deals with the Department of Agriculture and Rural Development, the Department of Health and Alberta Health Services responsibilities for food safety in the province. In 2013 a review¹ was released about the beef recall that occurred at XL Foods Inc.'s plant at Brooks, Alberta, between September and October 2012. The federal government is responsible for inspecting this facility. Accordingly, the processes used to regulate this facility are outside the scope of our follow-up audit.

The following table is to assist the reader in distinguishing the responsibilities between federal and provincial jurisdiction in the inspection of meat facilities.

MEAT PACKAGING FACILITY DISTRIBUTES MEAT	JURISDICTION RESPONSIBLE FOR INSPECTION
Within Alberta	Provincial
Outside Alberta	Federal
Both within and outside Alberta	Federal

SUMMARY

History of the audit

In 2006, we made 10 recommendations relating to food safety in Alberta. We recommended that:²

- Alberta Health Services (AHS, formerly regional health authorities) improve its food inspection programs and issue permits in compliance with legislation
- AHS and the Department of Health³ make wider use of tools to promote food safety and improve their information systems
- the Department of Agriculture and Rural Development administer its food safety surveillance program better, improve its inspection and investigation programs and improve its information systems
- the departments of Health and Agriculture and Rural Development develop better accountability for food safety
- Health, Agriculture and Rural Development and AHS improve their integrated food safety planning and eliminate gaps in food safety coverage in Alberta

In 2009, we followed up on our original audit. Two of the recommendations were implemented, leaving eight recommendations outstanding.

¹ Independent Review of XL Foods Inc. Beef Recall 2012, http://www.foodsafety.gc.ca/english/xl_reprt-rapppte.asp#g

² *Annual Report of the Auditor General of Alberta: 2005–2006*, Volume 1, pages 63–107.

³ For purposes of this report, the term Department of Health includes the former Department of Health and Wellness.

What we examined

In this audit, we followed up on the eight outstanding recommendations relating to food safety programs at AHS, Health and Agriculture and Rural Development. We focused on how they monitor food safety practices for food production, what information systems they use, and how they cooperate with each other and report on their results.

What we found

We have concluded that six more of the original ten recommendations have been implemented. AHS has improved its food establishment inspection programs and made them more uniform across the province. Cooperation between organizations and between federal–provincial regulators has improved. Agriculture and Rural Development has improved its surveillance and information system management processes.

What needs to be done

Two recommendations remain outstanding:

- Health needs to develop a strategic plan to demonstrate the effectiveness of its food safety program in Alberta. As well, the two departments must integrate their strategies to ensure a coordinated and effective approach to food safety. The outcomes of the integrated strategies need to be reported to Albertans.
- AHS and Agriculture and Rural Development need to consistently apply the province's meat facility standards in their inspections of food establishments.

Why this is important to Albertans

Food safety is essential to good public health. To trust that the food we eat is safe, Albertans need to know that good food safety systems are in place and working. These systems require sharing scientific knowledge and monitoring physical conditions at all stages of food production, from meat packing plants to restaurants. For this complex system to succeed, federal and provincial departments, AHS, and the departments of Health and Agriculture and Rural Development must all work well together.

AUDIT OBJECTIVE AND SCOPE

Our audit objectives

Our objective was to determine if Agriculture and Rural Development, Health and AHS had implemented the eight food safety recommendations remaining from our 2005–2006 report. We assessed management's action against the audit criteria we used in 2006.

Audit scope

In performing this follow-up audit we:

- visited all five AHS zones and reviewed 240 food inspection files
- interviewed management and staff from AHS, Health and Agriculture and Rural Development
- reviewed numerous documents from all three organizations

We do not have the authority to audit the federal entities⁴ that regulate aspects of food safety in Alberta. Nor did we contact them during our follow-up audit. As well, we did not audit food establishments that are regulated by federal statute. These include facilities that move their product inter-provincially or internationally. Most of the red meat processed in Alberta is federally inspected.

⁴ The federal entities include Health Canada, its First Nation and Inuit Health Branch, and the Canadian Food Inspection Agency.

BACKGROUND

Ensuring safe food involves regulation at all stages of food production, preparation and sale. Primary production includes producing and harvesting raw food. Secondary production extends to processing ready-to-eat products or preparing food with raw ingredients right before it is eaten.

Agriculture and Rural Development monitors and inspects production environments such as abattoirs (places for butchering animals) and meat processing facilities. It also does surveillance projects to identify risks that have a big effect on food safety, such as salmonella, listeria and other pathogens.

AHS is responsible for food safety at facilities that range from grocery stores to work camps to restaurants. To fulfill its responsibilities, AHS uses a reference tool it developed for its environmental health programs. Commonly called the Blue Book, it defines vision, mission, scope, principles and values for environmental health programs. It also divides environmental health into seven functional program areas, one of which is food safety. AHS uses the functional program areas from the Blue Book to organize its work relating to food safety.

Inspection programs use Blue Book standards to assign a risk level to food establishments based on the type of food handling they do. Establishments that serve ready-to-eat foods, such as convenience stores, are classified as class 1 and are inspected annually. Establishments with limited food handling of some raw ingredients, such as coffee shops, are classified as class 2 and are inspected twice a year. Establishments that prepare and serve food made from raw ingredients, such as restaurants, have the highest risk classification of class 3 and must be inspected three times a year.

Maintaining safe food systems in Alberta requires the participation of multiple governments and organizations. Health, AHS and Agriculture and Rural Development are members of federal–provincial–territorial committees that establish strategies for preventing and reacting to food borne illness.

FINDINGS AND RECOMMENDATIONS

For each of the following eight recommendations from 2006, we have identified the entity directly responsible or the entities that share responsibility.

Food establishment inspection programs—implemented Alberta Health Services

Background

In 2006 we recommended⁵ that Regional Health Authorities improve food establishment inspection programs by:

- inspecting food establishments following generally accepted risk assessment and inspection frequency standards
- ensuring that inspections are consistently administered and documented
- following up on critical violations promptly
- using enforcement powers to protect Albertans from the highest risk food establishments

⁵ *Annual Report of the Auditor General of Alberta: 2005–2006, Volume 1, page 76.*

In 2009 we concluded that AHS had a risk assessment process for inspecting food establishments. We repeated the remaining three parts of the recommendation.⁶

AHS relies on food inspectors to protect human health. Its Blue Book classifies food establishments into one of three risk categories. The frequency of AHS's inspections of food establishments is determined by the risk category.

Criteria: the standards for our audit

Systems for food inspection programs should be designed, controlled and operated well. Standards for program delivery should be defined. Each entity involved with inspections should have enough employees with training and continued professional education.

Food safety programs should be consistent across the province. Throughout the province, facilities being inspected should receive equivalent treatment. Managers should monitor inspection results promptly. The extent and timeliness of inspections should be maintained. Managers in all five health zones should take appropriate action at each entity, based on the inspection.

Our audit findings

AHS has implemented this recommendation by improving its inspection frequency, administering consistent standards for inspections and using enforcement practices across the province.

AHS developed standard operating procedures that classify food establishments into one of three categories. Class 3 facilities require inspection every four months, class 2 every six months and class 1 annually. In our 2006 audit, the overall inspection completion rate was 56 per cent. In our 2009 follow-up audit, the inspection completion rate increased to 64 per cent. For the period ended March 31, 2013, for all three categories combined the overall inspection completion rate for the province was 91 per cent. We found no evidence to believe that this increase would not be sustainable.

AHS also developed a procedure to distinguish critical from non-critical violations of food safety regulations. Its procedure for responding to critical violations includes a time limit for the food establishment to fix the violation. AHS public health inspectors carry out inspections across Alberta and examine food establishments using the same standards.

Our testing and observation showed adequate documentation to demonstrate that when violations are noted they are either corrected during inspection (for example, by having the operator throw out spoiled food) or documented in an action plan, followed up and promptly resolved.

During our testing, we also noted enforcement tools such as executive orders and prosecutions being used. Executive orders are used to remedy a contravention of the *Public Health Act* or mitigate a public health nuisance. Most often, prosecutions are a Court of Queen's Bench Order to back up the executive order. AHS issued 227 executive orders and pursued 12 enforcement actions for the period ended March 31, 2013.

⁶ *Report of the Auditor General of Alberta—October 2009*, page 94.

Tools to promote and enforce food safety—implemented

Department of Health and Alberta Health Services

Background

In 2006 we recommended the Department of Health and AHS consider a wider range of tools to promote and enforce food safety.⁷

In 2009 we observed that Health and AHS disclosed restaurant inspections on regional websites.⁸ We observed that its Hazard Analysis Critical Control Point (HACCP) program required further work to implement.⁹ We noted that Health and AHS were considering food safety training and education initiatives. We concluded they had made satisfactory progress but still needed to assess and implement innovative solutions to food safety issues.

Criteria: the standards for our audit

Food safety regulators should have the legislative, regulatory and promotional tools needed to carry out their mandate. They should also consider innovative approaches to improve food safety and should follow consistent practices across the primary and secondary food processing industries and throughout the province.

Our audit findings

Health and AHS developed food safety performance measures and created information system data definitions. These tools will improve the information they use to promote safe food. Both Health and AHS participate in the Canada–Alberta Partnership in Food Safety (CAPIFS). The committee meets to exchange information, identify food safety issues, and improve the coordination of food safety management and oversight in Alberta. We discuss this partnership in more detail later in this report (see page 61).

AHS also developed standard operating procedures. These complement the regulations under the *Public Health Act*. The procedures are guidelines for inspection processes, permits and discretion in enforcing food regulations. They do not replace Health's role to establish or seek amendments to existing regulations.

Results of restaurant inspections by AHS inspectors remain publicly available on the AHS website.¹⁰

AHS has developed and piloted a HACCP based program for restaurant operators across the province. The program was piloted at volunteer establishments, with a goal to introduce it to more operators in 2013. AHS also worked with Agriculture and Rural Development to develop a pilot strategy to implement HACCP based programs in meat processing facilities for which AHS provides permits. Both of these initiatives are intended to provide food handlers with better understanding of proper food safety systems. AHS believes that better understanding will also lead to improved compliance with food regulations.

In addition to training operators in HACCP, AHS offers regular food handling courses for food establishment staff throughout the province. Over 3,500 employees attended this course for the year ended March 31, 2013.

⁷ *Annual Report of the Auditor General of Alberta: 2005–2006, Volume 1*, page 83.

⁸ *Report of the Auditor General of Alberta—October 2009*, page 98.

⁹ HACCP is a preventive approach to food safety. It focuses on inspecting physical, chemical and biological conditions of the facility rather than inspecting finished products. HACCP is intended to identify potential hazards so risks can be eliminated before they affect food safety. A reference manual on specific inspection processes can be found at www.inspection.gc.ca.

¹⁰ See <http://www.albertahealthservices.ca/707.asp> for restaurant inspection results across Alberta.

Food safety information systems—implemented

Alberta Health Services

Background

In 2006 we recommended that AHS, supported by the Department of Health, improve its automated food safety information systems.¹¹ This included:

- enhancing system management, security and access control
- ensuring data consistency
- ensuring that service level agreements are in place
- developing reporting capacity for management and accountability purposes

In 2009 we repeated the recommendation.¹² AHS regions used three different software packages to collect and store environmental health information (including food safety). All three packages supported food safety activities such as issuing permits, calculating risk for each establishment, recording inspections, scheduling re-inspections and reporting summary results. There was no common software package for the province as a whole. Health could not access the systems that AHS used and did not collect food safety data.

Criteria: the standards for our audit

Food safety information systems should be designed, controlled and operated well. Managers should define the data they need to plan, manage and report on their key businesses; the information systems should collect that data. Systems should be secure, including access, input and processing controls. Systems should collect and maintain timely, complete and accurate data.

Our audit findings

AHS has implemented this recommendation by working towards one software package to collect and store environmental health information across the province. This software is currently used in the South, Calgary and Central zones. AHS plans to introduce it in the Edmonton and North zones. Management has prepared a detailed report showing its business objectives, the resources required and timelines to implement the software.

AHS improved management, security and access controls for its information systems. Information stored on laptops is encrypted and there are reasonable sign-on and password controls to access the data.

AHS created a set of data definitions that inspectors use across the province. Its new standard operating procedures guide inspectors when performing inspections of food establishments. This guidance helps inspectors perform inspections and improves the quality and consistency of data.

AHS now reports to Health quarterly on five performance measures for food safety in each zone. These five performance measures include the number of inspection units with critical violations, percentage of inspections with critical violations, number of critical violations, number of people who take food safety training and number of orders issued. The quarterly reports provide Health with the information it needs to make informed business and regulatory decisions.

¹¹ *Annual Report of the Auditor General of Alberta: 2005–2006*, Volume 1, page 84.

¹² *Report of the Auditor General of Alberta—October 2009*, page 99.

Agriculture surveillance program—implemented

Department of Agriculture and Rural Development

Background

In 2006 we recommended the Department of Agriculture and Rural Development improve the administration of its food surveillance program.¹³ This included:

- involving partners in deciding which projects have priority
- capturing costs for large projects
- monitoring the impact of surveillance projects

In 2009 we concluded that Agriculture and Rural Development had made satisfactory progress but still needed to:¹⁴

- involve stakeholders and partners in identifying issues and setting priorities for surveillance
- implement systems to capture in-kind costs for specific surveillance projects
- extend its analysis of surveillance project results to determine whether its projects ultimately contributed to food safety outcomes

Criteria: the standards for our audit

Agriculture and Rural Development should ensure that its process to select surveillance projects is working. There should be effective coordination between food safety partners to ensure that initiatives are properly prioritized. Surveillance programs should be operated with due consideration to effectiveness and efficiency. Managers should monitor results and take appropriate action based on program results.

Our audit findings

Agriculture and Rural Development implemented this recommendation by consulting with other government departments and meeting with industry representatives. Its consultation with industry took place primarily through meeting with the Alberta Food Processing Association and attending food safety conferences.

Agriculture and Rural Development strategically identified the following surveillance projects as priorities. These five surveillance projects had either federal, provincial or industry participation:

- assessment of sanitation in provincially licensed abattoirs, in response to the listeriosis outbreak in 2008
- salmonella enteritidis surveillance, co-sponsored by the Chief Provincial Veterinarian and the Chief Medical Officer of Health
- adoption of chemical intervention strategies in provincially licensed abattoirs
- preliminary microbiological assessment of sanitation in provincial facilities participating in the interprovincial meat hygiene pilot
- provincial baseline survey for salmonella and campylobacter in broiler chicken—a federal–provincial–territorial initiative to reduce pathogens in poultry products

Depending on the outcomes from the surveillance projects, Agriculture and Rural Development used the information to become part of the food safety system by advising the public and industry or to enforce meat facility standards, for example.

Agriculture and Rural Development estimates project costs based on materials and the percentage of an employee's time allocated to that project. It tracks the actual cost of materials and disposable items for

¹³ *Annual Report of the Auditor General of Alberta: 2005–2006*, Volume 1, page 88.

¹⁴ *Report of the Auditor General of Alberta—October 2009*, page 101.

each project but, after conducting a cost–benefit analysis, has decided not to track individual hours. We agree with this decision.

The focus of Agriculture and Rural Development’s surveillance projects has shifted from numerous small projects (for example, studying the effectiveness of boot baths) to large projects examining the spread of disease and pathogens. This broader scope means that surveillance project results can provide a more significant input to program discussions.

Agriculture food safety information system—implemented Department of Agriculture and Rural Development Background

In 2006 we recommended the Department of Agriculture and Rural Development improve its food safety information systems by:¹⁵

- improving its security and access controls
- ensuring complete, timely and consistent data collection
- ensuring data gets into the computerized database

In 2009 we concluded that the department had made satisfactory progress but still needed to to:¹⁶

- improve search functionality and capture more data in Agridam¹⁷
- assess the risks to data stored in the Projects Reports Database¹⁸ and restrict access to sensitive data
- add past surveillance projects to the AIMS¹⁹ database

Criteria: the standards for our audit

Food safety information systems should be designed, controlled and operated well. Managers should define the data they need to plan, manage and report their key businesses; the information systems should collect that data. Systems should be secure, including access, input and processing controls. Systems should collect and maintain timely, complete and accurate data.

Our audit findings

Improvements were made to Agridam’s security and access controls and to the amount of data stored in the system. Agriculture and Rural Development has improved security and access to its food safety information system by implementing a standard operating procedure for network administration and user maintenance. One staff member manages all project requirements, including granting and deleting project access to individuals and groups.

Agriculture and Rural Development stores more information in Agridam including complete and timely data on inspection results of red meat processing facilities. The department sets out its data requirements in audit and compliance directives for meat facilities and in detailed audit checklists. Lab test results, status reports, budgets, human resource and communication plans are all consolidated on the same system and managed by individuals assigned to specific projects. In addition, the system stores information on dairy producers, fish licenses and any other inspection data. Changes were also made to improve the system’s search function.

¹⁵ *Annual Report of the Auditor General of Alberta: 2005–2006*, Volume 1, page 94.

¹⁶ *Report of the Auditor General of Alberta—October 2009*, page 105.

¹⁷ Agridam is Regulatory Services Division’s food safety application that is used to track information related to meat inspections, investigations and licensing.

¹⁸ Projects Reports Database is used by Food Safety Division to store project information from the approval process to reporting the outcomes.

¹⁹ AIMS is an application used by the Food Safety Division to track samples and test results from across the province.

The department evaluates each project in the Project Reports database for data sensitivity. It uses this assessment to restrict access to employees who need it. Not all historical project data was transferred to AIMS. Division managers assessed the cost-benefit of transferring historical data onto its computer systems and transferred only data that was relevant to their current operations. Their assessment of historical data included the project's sampling method, values of its data, confidence managers have in the data and the source of the data. We agree with this risk-based approach to moving past projects in the current database.

Accountability for food safety—recommendation repeated

Departments of Health and Agriculture and Rural Development

We make this recommendation for the third time because Health needs to develop a strategic plan to demonstrate the effectiveness of its food safety program in Alberta. As well, the two departments must integrate their strategies to ensure a coordinated and effective approach to food safety. The outcomes of the integrated strategies need to be reported to Albertans.

Background

This recommendation requires senior management to develop a strategic plan for food safety accountability and report the results.

In 2006 we recommended the departments of Health and Agriculture and Rural Development further develop their capacity for food safety accountability in Alberta.²⁰ This included ensuring the departments' information systems can produce the information their ministers need for individual ministerial accountability and for cross-ministry accountability. In 2009 we changed the recommendation to the departments of Health and Agriculture and Rural Development to improve reporting on food safety in Alberta.²¹

In our original audit, we discussed the issue of joint accountability in an environment of shared responsibility for food safety. The Government of Alberta had no system for joint accountability between the two departments covering the food continuum from the farm gate to the food on your plate.

RECOMMENDATION 5: ACCOUNTABILITY FOR FOOD SAFETY—REPEATED

We again recommend that the Departments of Agriculture and Rural Development and Health improve reporting on food safety in Alberta.

Criteria: the standards for our audit

The ministers of Health and Agriculture and Rural Development should be able to demonstrate their accountability for the integrated food safety program in Alberta. In addition, individual entities should be accountable for their specific food safety mandate. Each entity should contribute to integrated accountability by reporting on its operations (cost and outputs) and effectiveness (meeting objectives).

²⁰ *Annual Report of the Auditor General of Alberta: 2005–2006*, Volume 1, page 105.

²¹ *Report of the Auditor General of Alberta—October 2009*, page 114.

Our audit findings

Department of Agriculture and Rural Development

In 2009 we noted that the department's reporting was the most comprehensive available about food safety in Alberta. This remains the case. The department's annual results analysis publicly reports on its role and responsibility for safe food. It reports on two performance measures: the percentage of licensed meat processing facilities that have added a preventive system to existing food safety systems and the number of facilities participating in the HACCP program.

The report also outlines other Agriculture and Rural Development initiatives, describing their objectives and cost. These programs include national and provincial food safety strategies, farm animal health and welfare, emergency preparedness, food safety systems, livestock traceability and provincial crop pest surveillance. We are satisfied with Agriculture and Rural Development's ability to produce the information for ministerial accountability.

Department of Health

The Department of Health does not report about food safety in Alberta. It does not have a strategic plan with objectives and performance measures to demonstrate the effectiveness of its food safety program in Alberta.

Health and Agriculture and Rural Development—together

In 2009 we commented that the next step for both departments was to agree on and approve a food safety strategy. The strategy would allow for integrated, cross-ministry accountability for food safety. The departments set up a deputy minister interagency food oversight committee in 2010. One of its agenda items was to develop a provincial food safety strategy. The deputy ministers delegated this task to their assistant deputy ministers, who were on a separate interagency food oversight committee. However, this has not moved forward and Alberta still does not have an integrated food safety strategy.

Implications and risks if recommendation not implemented

Without a system to coordinate accountability for food safety, the ministries will not be able to demonstrate the effectiveness of their actions in an environment of shared responsibilities. Individual participants also need systems to demonstrate the effectiveness of their own food safety activities.

Integrated food safety planning and activities—implemented

Department of Health, Department of Agriculture and Rural Development, and Alberta Health Services

Background

This recommendation deals with the operational day-to-day activities of the department's ability to integrate their food safety planning and activities.

In 2006 we recommended that the Department of Health and the Department of Agriculture and Rural Development work with regional authorities and federal regulators to improve integrated food safety planning and cooperation on food safety activities.²²

We repeated this recommendation in 2009, citing the need to complete strategic plans for environmental public health and food safety and to coordinate related activities.²³ We also repeated our recommendation that the departments resolve how they would use HACCP for all food processors.

Criteria: the standards for the audit

²² *Annual Report of the Auditor General of Alberta: 2005–2006*, Volume 1, page 97.

²³ *Report of the Auditor General of Alberta—October 2009*, page 107.

Food safety relies on shared responsibility among all parties involved. Their efforts should be integrated and coordinated across ministries, departments and agencies, and throughout the province.

Our audit findings

The Federal–Provincial–Territorial Food Safety committee has representation from the ministries of Agriculture and Rural Development and Health across Canada, including Alberta. The committee is working on strategic planning, non-federally registered sector²⁴ surveillance, pathogen reduction, dairy, food safety recognition and food retail.

The Canada–Alberta Partners in Food Safety (CAPIFS) is a joint initiative of the Canadian Food Inspection Agency, Health Canada, Department of Agriculture and Rural Development, Department Health and Wellness and Alberta Health Services. CAPIFS meets to exchange information, identify food safety issues, and improve coordination of food safety management and oversight in Alberta. They have revised their terms of reference and met regularly since October 2009.

CAPIFS has completed a number of initiatives on food policy integration and accountability. They include:

- a document describing legislation and regulations governing food in Alberta
- list of agencies with authority for food oversight
- list of food establishments
- list of agencies' role in each establishment

CAPIFS has recently revised Alberta's protocol for food borne illness and risk investigation. The protocol provides guidance for provincial and federal entities to act in cases of a food borne illness outbreak, exposure of the public to food borne biological, chemical or physical hazards, and recall of food products. The plan includes First Nations and Inuit Health and provincial lab facilities.

Eliminating gaps in coverage—satisfactory progress

Department of Health, Department of Agriculture and Rural Development, and Alberta Health Services

Background

In 2006 we recommended that the Department of Health, Alberta Health Services and the Department of Agriculture and Rural Development work with federal regulators to eliminate the gaps in food safety coverage in Alberta.²⁵ Gaps included:

- mobile butchers with unsanitary premises
- inconsistencies in administering meat facility standards
- lack of coordination for inspections

We repeated this recommendation in 2009, to close all three gaps.²⁶

Mobile butchers slaughter animals on an animal owner's premises. The meat is for the owner's use and cannot be sold. The mobile butcher eviscerates, skins and halves the animals on site. In many cases, the mobile butcher then takes the halves back to his own facility for further processing. Agriculture and Rural Development licenses the mobile butcher but historically AHS licensed the processing facility.

²⁴ A food establishment with a federal inspection covering certain categories such as packaging or labelling yet still required to be provincially inspected for its overall operations.

²⁵ *Annual Report of the Auditor General of Alberta: 2005–2006*, Volume 1, page 102.

²⁶ *Report of the Auditor General of Alberta— October 2009*, page 111.

Working together, Agriculture and Rural Development and Health set meat facility standards. The standards outline the requirements that meat processing facilities must meet. Historically, public health inspectors inspected all provincially regulated meat facilities. Starting in 2000, Agriculture and Rural Development's meat inspectors began to enforce the standard at meat facilities attached to provincially regulated slaughter facilities. Agriculture and Rural Development modified its version of the standard in 2009.

The following table outlines the department and relevant legislation that governs meat inspection of provincially regulated facilities within Alberta:

Event	Legislation	Department
Slaughter	<i>Meat Inspection Act</i>	Agriculture and Rural Development
Slaughter and meat processing	<i>Meat Inspection Act</i>	Agriculture and Rural Development
Meat processing	<i>Public Health Act</i>	Alberta Health Services

Criteria: the standards for our audit

Agriculture and Rural Development, Health and AHS, together with other food safety regulators, should identify overlaps and gaps in their food safety activities. Higher risk food establishments that operate in the void left by overlaps or gaps should be identified and prompt action taken.

Our audit findings

As we completed our 2009 follow-up audit, the details were being finalized to transfer inspection responsibilities for mobile butchers from AHS to Agriculture and Rural Development. This transfer is now complete. Agriculture and Rural Development now inspects both trucks and meat processing facilities of mobile operators. Its goal is to inspect each operator annually.

We reviewed inspection reports for 23 mobile butchers' facilities. Facilities that had not fixed their non-compliance by an expected completion date met with inspectors to explain their continued non-compliance. A single extension to the timeline was often granted. Once the extended date was reached, if the facility was still non-compliant the department took action to temporarily shut down some or all of the plant's operations. One facility was closed under this practice in 2011. We reviewed all 23 mobile butcher inspection reports and found processes in place to monitor deficiencies and enforce compliance.

We found discussions at CAPiFS were an effective process in identifying possible food establishments that are non-federally registered. The partners held discussions about the different food establishments to ensure that there was agreement as to who was responsible for inspecting it. In one example a cheese producer indicated to the provincial inspector that the facility was being inspected by federal inspectors. Communication between the two levels of government showed this was not the case. The facility was then properly inspected.

There continues to be a gap in the use of the meat facility standards between Agriculture and Rural Development and AHS. The meat facility standards are part of the regulations for Alberta's *Meat Inspection Act*. Meat facilities inspected by Agriculture and Rural Development must adhere to the Act, the regulations and the standards. Conversely, AHS's authority to inspect food establishments is governed by the *Public Health Act*, food regulations, and food retail and food services code. The meat

facility standards are listed in the code. Although the inspection processes are different, the intended and actual outcomes, safe food, are equivalent.

This discrepancy was also outlined in a report to Agriculture and Rural Development in 2012.²⁷ Agriculture and Rural Development commissioned this report because the industry had raised concerns about inconsistencies between the department's and AHS's inspections of meat processing facilities.²⁸ We have not reviewed the report in depth, but note that the report recommended "that the Department of Agriculture and Rural Development work with the Department of Health and Wellness to harmonize Meat Facility Standard and Food Code. We also recommend that the department[s] work together to harmonize inspection activity."²⁹ Agriculture and Rural Development stated to the Standing Committee of Alberta's Economic Future that it is taking each of the recommendations seriously.³⁰

What needs to be done

AHS and Agriculture and Rural Development need to consistently apply the province's meat facility standards in their inspections of food establishments.

Implications and risks if recommendation not implemented

If standards are not consistently applied between the Department of Agriculture and Rural Development, the Department of Health and Alberta Health Services, those being regulated may perceive that they did not get equivalent treatment or actually did not get equivalent treatment.

²⁷ [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/afs14398/\\$FILE/cuffmib-mar2013.pdf](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/afs14398/$FILE/cuffmib-mar2013.pdf)

²⁸ <http://www.edmontonjournal.com/tape+strangling+small+meat+packers+critic+says/8337884/story.html>

²⁹ 2012, George B. Cuff & Associates Ltd., *A Report on the Alberta Meat Inspection Program*, page 74.

³⁰ <http://www.assembly.ab.ca/Documents/isyquery/b7537f5e-6ca4-4f93-86b1-680817dd7f46/1/doc/>

Energy—Royalty Review Systems Follow-up

FINDINGS

Improving annual performance measures—implemented

Background

In our 2007 report¹ we made five recommendations to the Department of Energy to improve its royalty review systems. In 2011² we found that the department had implemented four of the recommendations and made satisfactory progress implementing our recommendation to improve its annual performance measures. The department developed a measure and supplementary indicators to measure the competitiveness of the conventional oil and natural gas royalty regimes in relation to other jurisdictions. We did not assess the recommendation as implemented because the department did not have performance measures to assess whether the bitumen royalty regime was meeting stated objectives.

Our audit findings

The department has implemented our recommendation. In the Ministry of Energy's 2012–2013 business plan the department introduced a new measure that reflects the relative impact of oil sands production in Alberta to the global oil market. This measure was publicly reported in the ministry's 2012–2013 annual report.³ The measure is a ratio of the total number of barrels of Alberta bitumen production in comparison to the total number of barrels of world oil consumption. Alberta bitumen production includes mined and in-situ bitumen produced during the most recent calendar year. The Alberta production data is based upon information from Alberta Energy Regulator reports.⁴ World oil consumption data is from the Oil Market Report, published by the International Energy Agency.

The target of 2 per cent (2012 actual was 2.1 per cent) set by the department is intended to benchmark, over time, the relative significance of Alberta's bitumen production in comparison to global oil consumption. The department will assess the target each year and adjust as deemed appropriate. The department, through its discussion of results included in the annual report, states that key levers such as the fiscal and royalty regimes have an impact on resource development activities and will impact the results of the measure. Other factors that could impact the measure results include market access, technology and environmental regulations. In the discussion of results, the department also specifies whether the increasing percentage share is due to bitumen production growth and/or declining consumption.

We found that the department completed a comprehensive study and analysis to select and develop this performance measure. The department considered many indicators such as investment, royalties in comparison to industry revenues and economic activity. The department concluded that for the stated purpose of the performance measure, Alberta oil sands supply share of global oil consumption is appropriate for distilling the complex matter into a single, coherent and reportable number.

Supplemental indicators such as synthetic crude oil production and bitumen wells drilled have also been reported by the department to provide further information on industry activity.⁵ Also, information about royalties, pre-payout and post-payout projects, and bitumen upgrading is also available on the ministry's website.⁶

¹ *Report of the Auditor General of Alberta—October 2007*, pages 115-132.

² *Report of the Auditor General of Alberta—April 2011*, pages 31-39.

³ *Ministry of Energy Annual Report—2012–2013*, page 26.

⁴ ERCB ST-39 and ST-43 for mine production data and ST-53 for in-situ production data.

⁵ *Ministry of Energy Annual Report—2012–2013*, page 14.

⁶ Energy website: http://www.energy.alberta.ca/about_us/1702.asp

Health and Alberta Health Services— Select Electronic Health Record Processes Follow-Up

BACKGROUND

In 2009 we conducted an audit of select electronic health record processes, which focused on the Department of Health's and Alberta Health Services' processes for managing the implementation of electronic health record systems.

Electronic health records are a collection of health data from various sources which is stored in many systems that reside in many locations throughout the province. These systems are under the control and direction of multiple organizations. The scope of our audit was limited to examining whether the department implemented the recommendations we made in 2009, which included elements of governance, project management and IT security. Our audit did not examine the processes at non-government entities such as clinics, pharmacies and laboratories. We did not examine the department's processes for planning and budgeting new initiatives, nor did we evaluate the implementation of the overall electronic health record strategy.

When we refer to electronic health record systems, we refer only to systems within the scope of our original audit.

EHR consists of repositories of information about patients, health care providers and health care facilities. It has data systems including lab test results, diagnostic images and prescription information. These systems exist in multiple locations under the controls of multiple organizations, including the Department of Health and Alberta Health Services. Data flows between these systems and is presented to the end user through a portal called Netcare.

Our audit was conducted in accordance with the *Auditor General Act* and the standards for assurance engagements set by the Canadian Institute of Chartered Accountants.

This section reports on the results of our follow-up of the three recommendations we made during our original audit that the department and AHS have implemented.

FINDINGS AND RECOMMENDATIONS

The department and Alberta Health Services have fully implemented three of our four recommendations. They have improved the governance structure of the electronic health record steering committees and the integration between their strategic and delivery plans. The department also improved its processes to monitor and report on costs, timelines and progress of projects. The department has also improved processes to conduct monthly audits of Netcare logs.

The department has not yet fully implemented our recommendation to follow its own policies for creating and removing user accounts in Netcare. This recommendation is distinct from the recommendation on monitoring Netcare logs, which we concluded is implemented. While our concerns relating to monitoring

Netcare logs have been resolved, management has not yet improved its processes for creating user accounts in Netcare and removing them when access is no longer required. We will follow up and report on this recommendation when management indicates it is implemented, which is expected to be complete by 2015.

Oversight and accountability for electronic health records—implemented

Background

In October 2009 we recommended that the Department of Health and Alberta Health Services improve oversight of their electronic health record systems by:¹

- maintaining an integrated delivery plan that aligns with the department's strategic plan
- improving systems to regularly report costs, timelines and progress

Our audit findings

The department and AHS implemented our recommendation by:

- improving the governance model for monitoring EHR initiatives
- having a documented plan that connects objectives and priority of individual projects to the department's five-year IT plan
- establishing a process to provide governance committees with information they need for decision making

Improved governance model

The department improved the IT governance structure by creating the Health Information Executive Committee, of which AHS is a member, to provide strategic direction for information technology at the provincial level. The department also created the EHR Sponsors Committee to oversee initiative steering committees, monitor progress of all initiatives and identify risks and issues across initiatives. Seven steering committees monitor individual initiatives and report to the EHR Sponsors Committee.

Aligning integrated delivery plan with strategic plan

The department implemented our recommendation to integrate their strategic and delivery plan by approving a five-year IT plan, which functions as their strategic plan. The five-year IT plan summarizes the provincial health system IT commitments from 2011 to 2016, and identifies several programs and initiatives. The department and AHS also developed a consolidated business case for all the EHR information systems, which they use as their delivery plan; it is aligned with the priorities of the five-year IT plan.

Improving systems to regularly report costs, timelines, progress and outcomes

The department and AHS now manage EHR costs at the operational level and have implemented a process to keep governance committees informed about projects that are not on track or need a change of scope.

Each project team holds regular status meetings for individual projects. The department's EHR delivery services division consolidates the project teams' status report and provides them to the EHR sponsors committee monthly and focuses on projects where teams expect to encounter issues with budget, schedule or scope. During this process, when a project team, either from the department or AHS, identifies resource priorities or risks that could affect its expected deliverable, the team informs the initiative steering committee responsible for that particular project. For projects that require changes to

¹ Report of the Auditor General of Alberta—October 2009, no. 6, page 73.

delivery schedules, budget or scope, the initiative steering committee will ask the EHR sponsors committee to make a decision based on the team's recommendation and rationale.

At the operational level, all project teams meet bi-weekly to discuss the status of each project so that teams identify challenges and dependencies among them, and actions needed for fixing these challenges and dependencies. Twice a year, managers from the department's EHR delivery services division prepare an EHR release planning document based on the information gathered from the project team's bi-weekly meeting reports.

Project management—implemented

Background

In our October 2009 report we recommended that the Department of Health follow established project management standards for electronic health record initiatives and projects.²

Our audit findings

The department has implemented a number of project management processes, including producing business cases to justify developing new components or enhancements to existing EHR systems. The department tracks the cost of all projects at the project level and provides information to relevant initiative steering committees if projects are not on time, are not meeting cost estimates or need scope changes. It developed quality management plans that outline how management should review project deliverables and how it should document project progress.

Each project has bi-weekly status reports that include variance explanations if deliverables are late and describe the effects delays have on specific milestones of the projects. The department has improved documentation and records management and have sign offs for project deliverables. Project managers regularly update risk assessments of projects as part of bi-weekly status reports.

Monitoring the EHR—implemented

Background

In October 2009, we recommended that the Department of Health proactively monitor access to the portal (Netcare), through which the electronic health records can be viewed, reviewing it for potential attacks, breaches and system anomalies.³

Our audit findings

The department has drafted new procedures for doing the monthly audits and following up on issues identified during those audits. The process relies on reports generated from logs of Netcare user activity. The procedure requires the analyst to:

- manually select a sample of the activity in the report
- follow up with the appropriate personnel to assess whether any suspicious activity is appropriate
- summarize and report the results of the monthly audits to the EHR Data Stewardship Committee

The department has implemented a technological solution to give them better access to the log data to ensure they can consistently generate the Netcare log reports and perform the monthly audits. As of May 2013, the analyst had completed two audits following the new procedures.

² Report of the Auditor General of Alberta—October 2009, no. 7, page 75.

³ Report of the Auditor General of Alberta—October 2009, no. 8, page 78.



Financial Statements and Performance Measures Auditing

REPORT OF THE AUDITOR GENERAL OF ALBERTA

October 2013

Financial Statements and Performance Measures

INTRODUCTION

Financial statements

The Government of Alberta prepares and makes public financial statements to provide information to Albertans about the province's financial performance. The Office of the Auditor General, under the *Auditor General Act*, audits the financial statements of the Province of Alberta, as well as every ministry, department, regulated fund and provincial agency.

An audit is the collection and evaluation of evidence about the fairness of financial statements. By obtaining this evidence, the auditor general is able to provide a high level of assurance to Albertans about whether the financial statements prepared by management are fairly presented and free from material misstatements. An audit includes assessing where errors (misstatements) could occur in the financial statements, testing management's internal control over financial information and performing additional audit procedures.

The audit, and the auditor's report, adds credibility to the financial statements by telling Albertans whether the financial statements are reasonable. This does not mean that the auditor general examines every transaction or guarantees that the financial statements are error-free. Millions of transactions are summarized into the province's financial statements. Audits, therefore, necessarily focus on areas of risk and on the places where errors that matter to users' understanding of the financial statements as a whole are likely to occur.

We issued unqualified independent auditor's reports on the financial statements for the year ended March 31, 2013 for those entities we audited. For a list of the entities we audit, please refer to our 2013 Performance Report, located on page 191 of this report.

Performance measures

The Government of Alberta prepares and reports performance measures to provide information that allows Albertans to assess the government's overall performance, including performance relative towards goals in specific policy areas.

For ministries and some agencies, we complete review engagement procedures on selected non-financial measures of performance in the entity's annual report. We also audit selected measures in the annual progress report on the government's business plan, titled *Measuring Up*. We report on the reliability, understandability, comparability and completeness of the selected measures of performance. Our reviews and the audit are not designed to provide assurance on the relevance of the measures to users.

We completed the audit of 10 of the 32 performance measures included in *Measuring Up* for the year ended March 31, 2013. We issued an unqualified auditor's report on the measures selected for audit in *Measuring Up*.

We completed the review of 44 performance measures in 18 ministry annual reports. Unqualified review reports were issued on the measures we reviewed.

Aboriginal Relations

DEPARTMENT

OUTSTANDING RECOMMENDATIONS

The following recommendations are outstanding and not yet ready for follow-up audits:

Formalize and communicate interpretation of eligible uses—July 2013, no. 1, p. 23

We recommend that the Department of Aboriginal Relations formalize and communicate its interpretation of eligible uses of funds.

Improve review process—July 2013, no. 2, p. 24

We recommend that the Department of Aboriginal Relations improve its processes to review and approve grant applications by:

- formalizing the additional review processes it developed for complex grant applications
- consistently obtaining sufficient information to support its assessment of grant applications

Monitor for and correct non-compliance—July 2013, no. 3, p. 26

We recommend that the Department of Aboriginal Relations improve monitoring processes by consistently ensuring First Nations comply with reporting requirements and acting to correct non-compliance with the grant agreement.

Agriculture and Rural Development

SUMMARY

DEPARTMENT

Matters from the current audit

There are no new recommendations to the Department of Agriculture and Rural Development in this report.

Matters from prior audits

See Agriculture and Rural Development, Health and Alberta Health Services—Provincial Food Safety Follow-up—see page 51.

AGRICULTURE FINANCIAL SERVICES CORPORATION

AFSC has implemented our November 2011 recommendation to ensure its procedures to develop the AgriStability accrual are properly documented and reviewed.

FINDINGS AND RECOMMENDATIONS

AGRICULTURE FINANCIAL SERVICES CORPORATION

Matters from prior audits

AgriStability accrual process—implemented

Our audit findings

In November 2011¹ we recommended that Agriculture Financial Services Corporation ensure its procedures to develop the AgriStability accrual are properly documented and reviewed.

In 2012 management documented certain but not all of its key accrual processes. This year, we tested management processes and controls over the AgriStability accrual and found that management has developed and retained adequate documentation for all processes it completed during the year, including management's review of accruals it made using the federal forecasting model.

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Reporting and dealing with allegations of employee misconduct—November 2006, no. 12, p. 46

We recommend that the Department of Agriculture and Rural Development improve its systems for reporting and dealing with allegations of employee misconduct.

¹ Report of the Auditor General of Alberta—November 2011, no. 9, page 75.

Enterprise risk management—October 2012, no. 12, p. 85

We recommend that the Department of Agriculture and Rural Development improve its risk management processes.

Food safety: Accountability—October 2013, no. 5, p. 59

(Originally October 2006, no. 12, p. 105; repeated as October 2009, no. 13, p. 114)

We again recommend that the Departments of Health and Agriculture and Rural Development improve reporting on food safety in Alberta. [This recommendation is being repeated to Health; ARD is making satisfactory progress.]

AGRICULTURE AND RURAL DEVELOPMENT, HEALTH AND ALBERTA HEALTH SERVICES

The following recommendation is outstanding and not yet ready for a follow-up audit:

Food safety: Eliminating gaps in food safety inspection coverage—October 2009, no. 12, p. 111
 (Originally October 2006, vol. 1, p. 102)

We again recommend that Alberta Health Services and the Departments of Health and Agriculture and Rural Development, working with federal regulators, eliminate the existing gaps in food safety coverage in Alberta. Gaps include:

- mobile butchers
- consistently administering the Meat Facility Standard
- coordinating inspections in the “non-federally registered” sector

Culture

SUMMARY

DEPARTMENT

There are no outstanding recommendations to the Department of Culture.

Education

SUMMARY

DEPARTMENT

Matters from the current audit

In accordance with Section 19(4) of the *Auditor General Act*, we report on our review of school jurisdiction audited financial statements and management letters. Notable trends over the past five years include the following:

- The consolidated accumulated operating surplus has decreased by \$90 million to \$313 million for the 75 school jurisdictions. The number of jurisdictions that have an accumulated operating deficit has not varied significantly (four in 2012).
- The number of school jurisdictions that incurred annual operating deficits has increased from eight to 30, peaking at 46 in 2010.
- Generally the type and number of recommendations made to school jurisdictions has been relatively consistent. However, three types of recommendations stand out. The number of jurisdictions with information technology management recommendations has declined over the period from 13 to five. School jurisdictions have focused on improving the quality of processes to change information systems and restrict access to the data therein. However, recommendations related to up-to-date formal policies and procedures and processes used to administer school-generated funds have not improved and exist in close to one-third of all jurisdictions in 2012. School boards need to hold management accountable for improving these recurring weaknesses.

Matters from prior audits

The Department of Education has implemented our November 2011 recommendation to improve its consolidation processes—see page 84.

NORTHLAND SCHOOL DIVISION NO. 61

Matters from the current audit and prior audits

There are no new recommendations to Northland School Division No. 61 in this report.

FINDINGS AND RECOMMENDATIONS

DEPARTMENT

Matters from the current audit

Review of school jurisdiction audited financial statements and management letters

Background

In accordance with Section 19(4) of the *Auditor General Act*, we report on our review of school jurisdiction audited financial statements and management letters.

We audited one of the school jurisdictions (Northland). For all other school jurisdictions, we reviewed the management letters of their auditors and the auditors' reports on the financial statements. Those audits were not designed to assess all key systems of control and

accountability. However, the auditors do report to management about weaknesses that come to their attention when auditing the financial statements.

There are 75 school jurisdictions comprising 62 school boards and 13 charter schools.

Our audit findings

Under Section 151 of the *School Act*, school jurisdiction auditors must send management letters, auditor's reports and audited financial statements to the Minister by November 30 of each year.

Auditors' Reports—Of the 75 school jurisdictions, three school jurisdictions (Almadina School Society, Calgary Arts Academy Society and Calgary Girls' School Society) received a qualified auditor's report for the year ended August 31, 2012. These reports were qualified because the auditors were unable to verify the completeness of gifts, donations and fundraising revenue.

All other school jurisdiction auditors reported that the 2012 financial statements were presented fairly in accordance with Canadian generally accepted accounting principles (GAAP).

Financial statements—Of the 75 school jurisdictions, 27 school boards and 3 charter schools incurred annual operating deficits for the year ended August 31, 2012 (2011 – 24 school boards and 3 charter schools). Annual operating deficits are acceptable to the department as long as jurisdictions have sufficient accumulated operating surpluses available to cover the shortfall. Four jurisdictions reported accumulated operating deficits: Canadian Rockies Regional Division No. 12, East Central Francophone Education Region No. 3, Northland School Division No. 61 and Rocky View School Division No. 41. Two of these four jurisdictions incurred annual operating deficits while the other two reported annual operating surpluses that were not sufficient to cover their accumulated operating deficit and their internal funding of capital asset additions.

School jurisdictions with accumulated operating deficits are expected to work with the department to eliminate the accumulated operating deficit in accordance with a ministry approved deficit elimination plan. The department has reviewed the nature of the accumulated operating deficits and is working with the jurisdictions to eliminate them.

The total annual operating surplus of these 75 school jurisdictions combined was \$49 million for the year ended August 31, 2012 compared to \$14 million for the year ended August 31, 2011. The total accumulated operating surplus decreased from \$320 million at August 31, 2011 to \$313 million at August 31, 2012. This decrease is attributable to jurisdictions incurring annual operating deficits, using operating reserves to acquire capital assets and making transfers to capital reserves.

Management letters—Following is a summary of the audit findings and recommendations reported to 75 school jurisdictions by their auditors for the year ended August 31, 2012. There were a total of 181 recommendations made to these school jurisdictions for the year ended August 31, 2012, as compared to 184 recommendations for the year ended August 31, 2011.

We have grouped our summary of audit findings into the following categories:

- financial reporting and governance
- internal control weaknesses
- information technology management

Financial reporting and governance

- Accounting issues—15 jurisdictions (including 7 of the 18 reported in 2011) need to resolve accounting issues relating to non-monetary transactions, proper recording and appropriate supporting documentation of journal entries, establishing and following proper accounting policies and guidelines to ensure sufficient and appropriate information is disclosed in the financial statements and increase familiarity with PSAB standards and drafting a plan to adopt the changes required for the August 31, 2013 year end.
- Board approval—3 jurisdictions (including 0 of 1 reported in 2011) need to ensure that board minutes are accurately recorded and approved and that superintendent expenses are approved.
- Board oversight—3 jurisdictions (including 1 of the 5 reported in 2011) need to ensure that the board takes on a more proactive financial oversight role including receiving accurate and timely financial information and monitoring compliance with investment policies.
- Budgetary process—2 jurisdictions (including 1 of the 3 reported in 2011) need to improve their budgetary processes.
- Review of financial information—11 jurisdictions (including 4 of the 15 reported in 2011) need to improve their review and approval of financial information such as bank reconciliations, journal entries, monthly financial statements and variances between budget and actual expenditures.
- Timeliness of recording financial information—2 jurisdictions (including 0 of the 3 reported in 2011) need to ensure accounting transactions for capital assets and capital grant expenditures, accruals, receivables are recorded or financial statements are prepared on a regular and timely basis.
- Personnel and staff shortages—2 jurisdictions (including 1 of the 5 reported in 2011) need to implement succession plans or cross-training for key financial positions or review the allocation of staff resources in the accounting function.

Internal control weaknesses

- Cash management—5 jurisdictions (including 2 of the 3 reported in 2011) need to improve cash management processes and controls.
- Capital assets—4 jurisdictions (including 0 of the 3 reported in 2011) need to improve the recording and tracking of capital assets.
- Goods and Services Tax—5 jurisdictions (including 1 of the 4 reported in 2011) need to improve their processes for charging the appropriate amount of GST and for recording the accurate amount of GST paid and recoverable.
- Payroll—11 jurisdictions (including 6 of the 13 reported in 2011) need to improve controls over the accuracy of and access to payroll information.
- Policies and procedures—20 jurisdictions (including 7 of the 19 reported in 2011) need to implement, update or follow formal procedures and policies.
- Purchases—13 jurisdictions (including 6 of the 13 reported in 2011) need to improve controls over the purchase cycle such as the review and authorization processes over purchases and payments, employee sign off for goods received and retention of supporting documentation.

- Segregation of duties—4 jurisdictions (including 1 of the 6 reported in 2011) need to segregate duties over authorization and recording of transactions or custody of and accounting for certain assets.
- School generated funds—24 school jurisdictions (including 10 of the 19 reported in 2011) need to improve the processes used to collect, record, spend and report school generated funds.

Information technology management

- Computer security—5 jurisdictions (including 4 of the 12 reported in 2011) need to improve computer security processes by having unique individual usernames and passwords, implementing a mandatory password change policy, having user access restricted for the appropriate information, backing up data at an offsite location and developing and implementing a Disaster Recovery Plan.
- Change management—1 jurisdiction (including 1 of the 3 reported in 2011) need to implement or enhance formal, documented policies and procedures for managing and testing changes to system and network software or hardware.

No recommendations

For the year ended August 31, 2012, auditors for 24 of 75 school jurisdictions did not report any findings and recommendations to management. This compares to 21 of 77 for the year ended August 31, 2011.

The department contacts jurisdictions, where necessary, to encourage them to deal with the issues raised in the management letters, particularly recommendations repeated from prior years.

Matters from prior audits

Line-by-line consolidation process—implemented

Our audit findings

The Department of Education implemented our 2011 recommendation¹ to improve its processes to consolidate the financial information of school jurisdictions into the Ministry of Education's financial statements.

The department consolidates the finances of school jurisdictions using information from the jurisdictions' audited August 31 financial statements. A consolidation model has been developed by the department to identify the significant transactions that occur in the seven-month period between the jurisdiction's August 31 year-end and the ministry's March 31 year-end. These transactions are referred to as stub period transactions.

We found that management documented key controls over the accuracy of stub period transactions and other consolidation adjustments required to align with government accounting policies and reporting standards. We also reviewed the dry-run process and analysis management performed in the fourth quarter of the fiscal year to validate the consolidation assumptions and methodology. Based on the results of the dry-run, management validated the consolidation methodology and adjusted two of the underlying assumptions.

¹ Report of the Auditor General of Alberta—November 2011, no. 12, page 81.

OUTSTANDING RECOMMENDATIONS

MINISTRY AND DEPARTMENT

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

School board budget process—October 2006, no. 25, vol. 2, p. 65

We recommend that the Department of Education improve the school board budget process by:

- providing school boards as early as possible with the information needed to prepare their budgets (e.g., estimates of operating grant increases and new grant funding, and comments on financial condition evident from their latest audited financial statements)
- requiring school boards to use realistic assumptions for planned activities and their costs and to disclose key budget assumptions to their trustees and the ministry
- establishing a date for each school board to give the ministry a trustee-approved revised budget based on actual enrolment and prior year actual results
- reassessing when and how the ministry should take action to prevent a school board from incurring an accumulated operating deficit

School board interim reporting—October 2006, no. 26, vol. 2, p. 68

We recommend that the Department of Education work with key stakeholder associations to set minimum standards for the financial monitoring information provided to school board trustees.

We also recommend that the Department of Education work with the key stakeholder associations to provide information to trustees about:

- the characteristics of a strong budgetary control system
- best practices for fulfilling financial monitoring responsibilities

NORTHLAND SCHOOL DIVISION NO. 61

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Obtaining an interest in land—October 2010, no. 13, p. 133

We recommend that Northland School Division No. 61 develop processes to ensure it obtains a valid legal interest in land before beginning construction of schools.

Improving financial reporting—October 2010, no. 14, p. 134

We recommend that the Northland School Division No. 61 improve its financial reporting by:

- preparing and presenting quarterly financial information to the Official Trustee
- regularly reviewing and reconciling general ledger accounts
- preparing year-end financial statements promptly

Energy

SUMMARY DEPARTMENT

Matters from the current audit

The Department of Energy should implement an enterprise risk management process.

Matters from prior audits

See Energy Royal Review Systems—see page 65.

We repeated our recommendation to the department to ensure bioenergy grant recipients comply with the terms of their grant agreements.

The department has implemented our recommendation to improve controls over royalty adjustment disclosure to ensure the amounts are complete and accurate.

FINDINGS AND RECOMMENDATIONS

Matters from the current audit

Implement an enterprise risk management system

Background

Enterprise risk management (ERM) is a continuous, proactive process to understand and communicate risks from an organization-wide perspective. Risk management involves assessing the risk of uncertain outcomes, ranking them based on likelihood and potential impact, and then implementing appropriate risk mitigation responses.

A risk assessment should consider industry and regulatory factors, applicable laws and regulations, economic indicators, industry trends, business relationships and fraud and error.

RECOMMENDATION 6: IMPLEMENT AN ENTERPRISE RISK MANAGEMENT SYSTEM

We recommend that the Department of Energy design and implement an effective enterprise risk management system to ensure relevant risks are identified, tracked and appropriately mitigated.

Criteria: the standards for our audit

A formal risk assessment should be documented and updated regularly.

Effective risk management should:

- clearly define roles and responsibilities, including clearly identifying who is responsible for enterprise risk management
- identify and document the risks associated with achieving objectives
- assess and rank the risk, including likelihood and potential impact of specific risks
- develop and implement programs or procedures for identified risks

- update risk assessments as changes occur
- monitor and evaluate programs/processes to identify potential risks
- report risks and actions to senior management

KEY FINDINGS

- The department does not have a formalized enterprise risk management process.
- The department does have a variety of processes to continuously identify and manage significant issues and risks as they arise.

Our audit findings

As part of our financial statement audit, we examined the organizational risk management process at the department. We found that senior management receives information and meets regularly to discuss issues and risks pertinent to the department. Further, the department has various processes throughout the organization to assess risks as they arise, consider potential future risks, and identify risk mitigation strategies. Risk management processes also exist at the business level, including information technology, finance and strategy.

However, an overarching and cohesive risk management process does not exist. The department does not have a defined enterprise risk management process to track risks identified, assess and rank those risks and develop and implement processes to respond to and mitigate the identified risks to ensure department's objectives are achieved. Also, without an enterprise risk management process, it is less likely that interrelationships among risks will be identified. For example, the ability to assess the impact of risks across various areas of the department like information technology, finance, human resources and royalty operations is much more difficult without an overall risk assessment process.

A more comprehensive, formal risk management process will help senior management determine if:

- the risk appetite implicit in the department's business plan is appropriate
- the systems implemented are effective to manage, monitor and mitigate risk, and that the risk management implemented is appropriate given department's business plan and strategy

It also would allow senior management to be certain that:

- the risk management system informs the senior management of the major risks facing the department
- an appropriate culture of risk-awareness exist throughout the department
- there is a recognition that management of risk is essential to the successful execution of department's business plan

Implications and risks if recommendation not implemented

Without an effective enterprise risk management system, the department may not identify and manage risks efficiently and effectively and senior management might not be able to effectively oversee the department's risk management processes.

Matters from prior audits

Ensuring compliance with terms of bioenergy grant agreements—recommendation repeated

Background

In 2012¹ we recommended that the department ensure that recipients under the bioenergy producer credit grant program are complying with their grant agreements. We are repeating this recommendation because we continued to find multiple instances where the requirements of the grant agreements were not being met.

The bioenergy producer credit program is provided to industry to encourage the development of bioenergy products, including renewable fuels, electricity and heat. For the year ended March 31, 2013, \$44 million was paid for biofuel initiatives. The funds received by recipients are based on the amount of reported fuel and electrical output. Bioenergy producers who qualify for the credit submit production information, along with an invoice, in order to receive payment. Additionally, all grant recipients are required to provide annual reporting on a number of items, including the energy product produced and sold, the production capacity, greenhouse gas emissions, as well as the feedstock, water and external energy consumed.

RECOMMENDATION 7: ENSURE COMPLIANCE WITH TERMS OF BIOENERGY GRANT AGREEMENTS—REPEATED

We again recommend that the Department of Energy ensure that recipients under the bioenergy producer credit program are complying with their grant agreements.

Criteria: the standards for our audit

The terms and conditions of grant agreements should be enforced to ensure compliance and to verify objectives of the program are being met.

KEY FINDINGS

- Bioenergy credit recipients are not submitting assurance reports as required by their grant agreements.
- Annual reports from prior periods have still not been received from all grant recipients.

Our audit findings

Assurance reports are required to be submitted by credit recipients within the timeline stipulated in their individual agreements. Based upon our examination of four recipients, we found that three of them had not submitted an assurance report within the agreed upon timeframe. At the time of our examination in early May 2013, the assurance reports had still not been received. We did not find any evidence that the reports had been requested or followed up on by the department.

We also followed up on our audit findings from last year, when we identified that the annual reports for five out of six recipients selected were not received by the department for the reporting period of 2010–2011. During our audit we found that three of the six recipients still have not submitted their annual reports for the 2010–2011 reporting period.

Of note, the department has recently contracted with an external firm to assist with improving their processes and to collect the necessary information from bioenergy grant recipients.

¹ Report of the Auditor General of Alberta—October 2012, no. 14, page 96.

Implications and risks if recommendation not implemented

Without timely receipt and review of the required reports from bioenergy producers the department may not be receiving the information it requires to assess compliance with grant agreements and to assess whether the objectives of the bioenergy producer credit program are being met.

Improve controls over royalty adjustments note disclosure—implemented

Our audit findings

The department implemented our 2012 recommendation² to improve its controls over the royalty adjustment disclosure to ensure the amounts are complete and accurate. Based on our examination of the process to compile and calculate the amounts disclosed in the royalty adjustment note, we found that the controls have improved. The process includes a more thorough review to ensure the amounts disclosed are complete and accurate. Additionally, we did not identify any significant errors during our audit of the note disclosure.

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

The following recommendation is outstanding and not yet ready for a follow-up audit:

Ensuring compliance with terms of bioenergy grant agreements—October 2013, no. 7, p. 89 (Originally October 2012, no. 14, p. 96)

We again recommend that the Department of Energy ensure that recipients under the bioenergy producer credit program are complying with their grant agreements.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Improving processes to recognize royalty revenue estimates in the financial statements—October 2012, no. 15, p. 97

(Originally November 2011, no. 13, p. 89)

We again recommend that the Department of Energy improve its controls to ensure consistent application of methodology used to calculate bitumen royalty estimates.

Establish adherence to nine-point bioenergy plan—bioenergy producer credit program—July 2013, no. 14, p. 111

We recommend that the Department of Energy require bioenergy producer credit grant program applicants to demonstrate their product's positive environmental impact relative to comparable non-renewable energy products.

Clarify reporting guidelines for grant recipient reporting—July 2013, no. 15, p. 112

We recommend that the Department of Energy clarify its guidelines for annual reporting by bioenergy grant recipients to ensure it has the information required to appropriately assess and estimate bioenergy project emissions.

²Report of the Auditor General of Alberta—October 2012, no. 13, page 95.

Enterprise and Advanced Education

SUMMARY

DEPARTMENT

There are no new recommendations to the Department of Enterprise and Advanced Education in this report.

POST-SECONDARY INSTITUTIONS

We recommended that, similar to a recommendation made to certain post-secondary institutions in our February 2013 report, Athabasca University, University of Alberta, University of Calgary and University of Lethbridge improve systems to ensure compliance with legislation—see page 94.

ATHABASCA UNIVERSITY

We recommended that the university improve procedures to monitor access and security of information systems—see page 95.

We repeat our recommendation that the university develop a disaster recovery plan and capabilities—see page 96.

THE UNIVERSITY OF ALBERTA

The university implemented the prior year's recommendation related to information technology controls—see page 97.

THE UNIVERSITY OF CALGARY

The university implemented the following prior years' recommendations:

- information technology change management controls—see page 99
- secure access to PeopleSoft—see page 100

THE UNIVERSITY OF LETHBRIDGE

The university implemented our prior year's recommendation related to clear and complete research policies—see page 100.

INTERNAL CONTROLS—A REPORT CARD

This report includes an update on the report card on four universities' internal controls over financial reporting, together with comparative assessments from our 2012 and 2011 audits. Our next report will include the results of our audits at the colleges, technical institutions, MacEwan University and Mount Royal University.

We evaluated the following key indicators of effective financial processes and internal controls:

- the time it took institutions to prepare complete and accurate year-end financial statements
- the quality of draft financial statements we received, including the number of errors our audit found
- the number and type of current and outstanding recommendations

To govern effectively, boards need accurate and timely financial information throughout the year, not just at year-end. To manage effectively, management needs the same information. We see a direct correlation between a strong year-end process to prepare financial statements and the ability to prepare quality financial information throughout the year.

A university could have a yellow or red ranking, yet still receive an unqualified opinion, as management can correct errors and disclosure deficiencies during the audit process. The number of errors and disclosure deficiencies we find in the draft financial statements indicates how effective financial controls are for preparing accurate financial statements.

Effective control environments include clear policies, well designed processes and controls to implement and monitor compliance with policies and secure information systems to provide timely and accurate financial and non-financial information to manage and govern the institutions. Recommendations that are not implemented on a timely basis erode the effectiveness of the institution's control environment. Weak control environments impact the quality of decisions made by management and the board of governors. This can result in an institution not achieving its goals by operating in a cost effective manner and managing operating risks.

It is critical that the board of governors of post-secondary institutions hold management accountable for improving identified control weaknesses in a reasonable period of time. As the Minister of Enterprise and Advanced Education and the Lieutenant Governor in Council appoint the boards, the minister through the department, must also hold the boards accountable for their effective oversight of the institutions.

The report card

- ◆ Significant improvements are needed.
- Improvement is required, but not to the same extent as the red items. Yellow items may or may not be associated with a management letter recommendation. They represent areas where an institution can improve, as opposed to areas that require significant, immediate attention.
- We have not identified significant weaknesses in the control environment.

Institution	Financial statements preparation		Outstanding recommendations	Page reference
	Accuracy	Timeliness		
Athabasca University				94
2013	●	●	◆	
2012	●	●	◆	
2011		●		
University of Alberta				97
2013	●	●	●	
2012	●	●		
2011	●	●		
University of Calgary				99
2013	●	●	●	
2012	●			
2011		●	◆	
University of Lethbridge				100
2013	●	●	●	
2012	●	●	●	
2011	●	●	●	

In concluding on our report card, we note the following:

Financial statement preparation

The four universities prepared their first financial statements under Canadian public sector accounting standards. As expected when standards change, we identified several issues and audit differences that institutions had to resolve. Despite these issues, we concluded that the universities generally had effective processes to implement the new standards and to prepare timely and accurate financial statements. We issued unqualified audit opinions on the financial statements of all four universities.

Outstanding recommendations

The University of Alberta, University of Calgary and University of Lethbridge implemented a number of prior years' recommendations during the year. However, these institutions continue to have outstanding recommendations that require management's commitment to implementing in the near future. In particular, the University of Lethbridge must make a priority our 2007 recommendation on implementing an information technology framework.

As a result of a current year recommendation on monitoring access and security of information systems, Athabasca University has nine outstanding recommendations on its control

environment. This includes our 2010 recommendation to improve information technology resumption planning and capability, which we repeat this year based on our assessment the university has had sufficient time to implement the recommendation given the significant risk to the university. As reported in our June 2013 report, the university also has a number of recommendations that require immediate attention, related to the implementation of its administrative systems renewal project. We conclude the university must significantly improve its internal control environment. The board of governors must make it a priority of management to implement these outstanding recommendations to achieve the university's objective of cost-effectively providing online learning to students.

FINDINGS AND RECOMMENDATIONS

POST-SECONDARY INSTITUTIONS

Matters from the current audit

Consistent with our recommendation to colleges and technical institutions,¹ we recommend that Athabasca University, University of Alberta, University of Calgary and the University of Lethbridge improve processes around legislative compliance. We acknowledge that all post-secondary institutions are working collaboratively to implement this recommendation for the sector as a whole.

Matters from prior audits

There are no other sector-wide recommendations.

ATHABASCA UNIVERSITY

SUMMARY

Matter from current audit

Access and security monitoring

Background

Monitoring and logging access to the university's critical systems, devices and information helps to ensure that access controls are working as expected and that security threats are promptly identified and corrected. Information security devices, business applications and systems have security features that can log different levels of events and activities. Timely reporting and continuous monitoring of these logs allow management to resolve and prevent inappropriate access and security violations.

¹ Report of the Auditor General of Alberta—February 2013, no. 7, page 60.

RECOMMENDATION 8: IMPROVE PROCEDURES TO MONITOR AND REPORT ACCESS AND SECURITY VIOLATIONS

We recommend that Athabasca University formalize its access and security monitoring procedures to:

- detect and assess security threats to critical information systems
- report access and security violations to senior management
- identify and resolve the root causes of security threats and violations

Criteria: the standards for our audit

The university should have a documented and effective control process to monitor and log information security and access violations. It should also ensure that its network operating systems, applications and other security devices are configured to prevent unauthorized access. Such processes should specify how management should report and remediate security violations.

KEY FINDING

The university has no formal documentation on monitoring activities or records of periodic review of access and security violations.

Our audit findings

The university logged and monitored access to its critical systems. However, we found no formal documented evidence of periodic review, escalation of access and security violations identified and remediation actions.

We found that the university is taking the following steps:

- Firewall logs are enabled and reviewed daily for security violations.
- Log watching utility is used to monitor web service logs. Such logs are reviewed periodically and notifications are sent to staff as needed.
- Active directory logging activities are enabled and logs are periodically reviewed.
- Access logs to forms and certain critical tables (for example, inserts/deletes to student's grades) are enabled. However, these logs are not reviewed consistently and are used for forensic purposes only.
- User login history is enabled for financial application. However, review of such logs is performed as needed.

In addition, senior management is not informed of any access and security violations.

Implications and risks if recommendation not implemented

Failure to actively monitor access and security violations may allow an intruder to probe for weaknesses or entry points to the university's financial information systems. Access and security violations may be undetected or not properly dealt with, causing potential security threats to the university's financial applications and information resources.

Matter from prior audits

Information technology resumption plan—recommendation repeated

Background

In 2010 we recommended² that Athabasca University:

- assess the risks and take the necessary steps to establish appropriate offsite disaster recovery facilities that included required computer infrastructure, to provide continuity of critical IT systems
- complete and test its existing disaster recovery plan, to ensure continuous services are provided in the event of a disaster

In 2011 the university performed a risk assessment on its IT resumption capability. The assessment confirmed the university would not be able to recover its critical student IT services from a catastrophic failure at their data centre in Athabasca. In 2012 the university initiated a project to update its recovery plans and capabilities.

The university relies heavily on its IT systems and infrastructure to deliver online student services, including course materials and course evaluations as well as daily corporate financial activities. Failure to recover promptly from a disaster affecting the data centre at the main campus in Athabasca would affect the university's ability to continue providing these services.

Disaster recovery is the process, policies and procedures needed to recover and continue technology services and infrastructure critical to an organization, after a natural or human-caused disaster. Disaster recovery planning is a subset of a larger process known as business continuity planning. It should include planning for resumption of applications, data, hardware, communications (such as networking) and other IT infrastructure. A well-designed and frequently tested disaster recovery plan (DRP) can better prepare the university to recover from a major outage or a total loss of its IT infrastructure, within an identified timeframe.

We repeat this recommendation given the significant risk to the university and the time since we originally made the recommendation.

RECOMMENDATION 9: DEVELOP DISASTER RECOVERY PLAN AND CAPABILITIES—REPEATED

We again recommend that Athabasca University:

- assess the risks and take the necessary steps to establish appropriate offsite disaster recovery facilities, that include required computer infrastructure, to provide continuity of critical IT systems
- complete and test its existing disaster recovery plan to ensure continuous services are provided in the event of a disaster

² Report of the Auditor General of Alberta—October 2010, no. 10, page 111.

Criteria: the standards we used for our audit

The university should have:

- a DRP that is based on risk assessment of critical IT services and business requirements for the continuity of these services
- a documented and effective backup and restoration plan or procedures for its critical information assets
- effective plans and means to test the DRP regularly using an offsite IT recovery facility
- effective procedures to assess the adequacy and completeness of the DRP after testing

Our audit findings

The university has started assessing the design considerations of a disaster recovery site hosted at another institution. The university continues to evaluate alternatives to establish a system recovery capability and is trying to improve the stability of its systems. The university is assessing disaster recovery scenarios and pilot test cases for its disaster recovery strategy. However, the risk of not being able to recover from a catastrophic failure at its data centre in Athabasca remains high until this recommendation is implemented.

Implications and risks if recommendation not implemented

Without a functional disaster recovery plan and appropriate recovery facilities and equipment, Athabasca University may not be able to systematically recover data or resume critical business and student services functions within the required timeframes.

THE UNIVERSITY OF ALBERTA**SUMMARY**

We recommended that the University of Alberta improve its systems to ensure compliance with legislation—see page 94.

The university implemented the prior recommendation related to information technology controls—see below.

FINDINGS AND RECOMMENDATIONS**Matter from prior audits**

Information technology controls—implemented

Our audit findings

The university implemented our 2009 recommendation³ to improve its information technology controls to:

- define and implement an effective university-wide IT governance program for critical IT systems
- develop comprehensive university-wide IT policies, procedures and standards to support an IT strategy for its critical systems
- implement effective control processes that ensure these policies, procedures and standards are monitored and consistently met throughout the university
- develop a university-wide plan to implement well-designed and effective IT security controls to support the university's information security policy framework

³ Report of the Auditor General of Alberta—October 2009, page 162.

IT governance program

The university defined and implemented an effective university-wide IT governance structure for critical IT systems by:

- creating two new committees—The IT advisory committee reviews proposals and makes recommendations to the IT enterprise committee. The vice provost for information technology chairs the IT enterprise committee, which includes vice presidents, associate vice presidents, deans and associate deans.
- approving an IT roadmap for 2012 to 2016—The roadmap discusses all the strategic business requirements that the university believes will help it meet the major technology trends of mobility, green computing, open data, operational excellence and best practices.

IT policies, procedures and standards

The university:

- implemented comprehensive and appropriate policies and procedures to support the university's enterprise resource planning system, which holds critical financial and student information (for example, finances, human resources and student records)
- established an IT enterprise committee, which oversees the IT control framework that the administrative and academic systems follow
- uses a central active directory to track the academic information system's assets and identified all the information assets across the university, to assess and manage their risks
- incorporated IT risk assessments in an institutional risk indicator summary, which ensures that the university is assessing its risk if some departments or faculties do not comply with the IT governance structure and IT control and security frameworks—In addition, the university has assessed its risk using COBIT to identify risk on individual and specific application systems.

The internal audit department has developed a plan to review policies, processes and standards. The plan includes information security management, policies and procedures for assessing development frameworks, emerging information management technologies risk assessments and continuous audits.

IT security controls

The university developed a university-wide plan to implement well-designed and effective IT security controls to support its information security policy framework. Since 2009, the university has established the position of an IT security officer who maintains and oversees the university's IT security program. The IT security officer established a university-wide IT security committee to develop a campus-wide IT security awareness training program and draft other security policies.

The university also:

- defined and implemented security policies for its central administrative and academic systems, to clarify roles and responsibilities
- implemented processes and controls to support its IT security policy framework—These include:
 - a policy for information technology use and management
 - an intrusion detection system, which monitors network traffic
 - privacy and security training and awareness programs
 - a purchased information security and privacy awareness training solution that the university will host as a training module
- documented requirements to demonstrate the effectiveness of security monitoring controls of backup, incident and intrusion logs

THE UNIVERSITY OF CALGARY

SUMMARY

We recommended that the University of Calgary improve systems to ensure compliance with legislation—see page 94.

The university implemented the following recommendations:

- information technology change management controls—see below
- secure access to PeopleSoft—see page 100

FINDINGS AND RECOMMENDATIONS

Matters from prior audits

Improve information technology change management controls—implemented

Our audit findings

The university implemented our 2011 recommendation⁴ to establish:

- an organization-wide IT change management policy with supporting procedures and standards
- processes to ensure the policy is consistently followed throughout the organization

For the sample of IT infrastructure and PeopleSoft system changes we examined, we found that the university followed its change management policy, procedures and standards and consistently documented test plans, test results and post-implementation reviews.

In addition, we reviewed the change advisory board's meeting minutes and confirmed that it meets weekly to discuss, analyze and approve the changes requested to the university's IT infrastructure and PeopleSoft system before the change is implemented.

⁴ Report of the Auditor General of Alberta—November 2011, no. 6, page 67.

Secure access to PeopleSoft—implemented

Our audit findings

The university implemented our 2011 recommendation⁵ to ensure access to its PeopleSoft system is secure and meets the university's security standards. This included:

- strong authentication and password requirements
- regular account review for all PeopleSoft accounts, including privileged and administrative access accounts, for need and appropriateness

Based on our user access testing, we determined that the university has:

- defined the term "privileged PeopleSoft user" and who needs this level of access in the system
- assessed all users in PeopleSoft and determined which accounts were privileged and needed stronger SecureID authentication (an additional two-factor form of authentication used to authenticate users' access to critical university information)
- configured the PeopleSoft system to require SecureID authentication for all privileged users

In addition, we verified that privileged PeopleSoft users were required to use the two-factor form of authentication through the use of SecureID password tokens.

Through its Innovative Support Services project, the university identified the access each employee should have according to their job role and function. This project also included a review of all functional access to PeopleSoft for need and appropriateness. The university periodically reviewed user access in 2011 and continues to perform annual reviews of user system access.

THE UNIVERSITY OF LETHBRIDGE

SUMMARY

We recommended that the University of Lethbridge improve its systems to ensure compliance with legislation—see page 94.

The university implemented our prior recommendation related to clear and complete research policies.

FINDINGS AND RECOMMENDATIONS

Matters from prior audits

Clear and complete research policies—implemented

Our audit findings

The university implemented our 2008 recommendation⁶ to improve systems to ensure that:

- financial research policies are current and comprehensive
- proper documentation is maintained for approving research accounts
- researchers, research administrators and financial services staff are aware of changes to financial policies and are properly trained to comply with the policies

⁵ *Report of the Auditor General of Alberta—November 2011, no.7, page 68.*

⁶ *Report of the Auditor General of Alberta—October 2008, page 227.*

In our November 2011 report,⁷ we reported that the Board of Governors approved an updated research policy titled, Research Roles and Responsibilities. This policy outlined responsibilities for monitoring compliance with research policies. The university also developed guidance for administering specific internal research grants. In addition, financial services monitored financial and reporting compliance with the financing agencies' requirements. The university also updated its research proposal form and updated the practical guide to conducting research at the university. We also noted for the items tested that proper documentation was maintained for approving research accounts.

This year, the university updated its research policy to clarify the differences between internally and externally funded research projects. It also made improvements to the research overhead charging policy to clarify the standard overhead rate the university should use on research projects. Furthermore, the university now maintains a centralized list of all granting agencies that prohibit research overhead charges, along with supporting research correspondence with the funding agencies. As a result, we consider this recommendation implemented.

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

The following recommendations are outstanding and not yet ready for follow-up audits:

Improve financial reporting processes—October 2012, no. 16, p. 100

We recommend that the Department of Enterprise and Advanced Education improve its financial reporting processes by:

- training staff on the policies, processes and controls related to preparing the financial statements
- improving its monitoring and review processes to ensure accuracy of the financial information
- reducing its reliance on manual processes, to increase the efficiency and accuracy of financial reporting

Resolve outstanding sector accounting issues—October 2012, no. 17, p. 101

We recommend that the Department of Enterprise and Advanced Education work with the Office of the Controller and institutions to develop a process for efficient resolution of accounting issues in the post-secondary sector.

Develop strategic plan and accountability framework—July 2013, no. 6, p. 48

We recommend that the Department of Enterprise and Advanced Education, working with institutions and the Campus Alberta Strategic Directions Committee:

- develop and communicate a strategic plan that clearly defines the minister's expected outcomes for Campus Alberta, initiatives to achieve those outcomes, resources required and sources of funding
- develop relevant performance measures and targets to assess if the outcomes are being achieved
- publicly report results and the cost of achieving them
- review and clarify the accountability structures for governing collaborative initiatives

⁷ Report of the Auditor General of Alberta—November 2011, pages 71-72.

Develop processes and guidance to plan, implement and govern collaborative projects—July 2013, no. 7, p. 51

We recommend that the Department of Enterprise and Advanced Education, working with institutions and the Campus Alberta Strategic Directions Committee, develop systems and guidance for institutions to follow effective project management processes for collaborative initiatives.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Non-credit programs: Standards and expectations—April 2008, no. 1, p. 22

We recommend that the Department of Enterprise and Advanced Education:

- clarify its standards and expectations for non-credit programs and clearly communicate them to public post-secondary institutions
- work with institutions to improve the consistency of information that institutions report to the department

Non-credit programs: Monitoring—April 2008, no. 2, p. 23

We recommend that the Department of Enterprise and Advanced Education implement effective processes to:

- monitor whether institutions report information consistent with its expectations
- investigate and resolve cases where institutions' program delivery is inconsistent with its standards and expectations

Cross-Institution recommendations: Enterprise risk management—April 2010, no. 17, p. 158

We recommend that the Department of Enterprise and Advanced Education (through the Campus Alberta Strategic Directions Committee) work with post-secondary institutions to identify best practices and develop guidance for them to implement effective enterprise risk management systems.

MULTI-INSTITUTIONAL RECOMMENDATION

The following recommendation is outstanding and not yet ready for a follow-up audit:

Improve systems to ensure compliance with legislation—February 2013, no. 7, p. 60

We recommend that the post-secondary institutions⁸ implement systems to:

- understand what legislation they must comply with
- develop appropriate policies, procedures and controls to ensure compliance with legislation
- monitor and report non-compliance to senior management and board audit committees

⁸ As a result of our assessment, we made the following common recommendation to each of Alberta College of Art + Design, Bow Valley College, Keyano College, Lakeland College, Lethbridge College, MacEwan University, Medicine Hat College, Mount Royal University, NAIT, Olds College, Portage College, Red Deer College and SAIT. We also made a similar recommendation to NorQuest College, except that its board already receives a report on compliance with legislation. This does not include Grande Prairie Regional College and Northern Lakes College. As of the *Report of the Auditor General of Alberta—October 2013*, see page 94, this recommendation now also includes Athabasca University, University of Alberta, University of Calgary, and University of Lethbridge.

ALBERTA COLLEGE OF ART + DESIGN

The following recommendation is outstanding and not yet ready for a follow-up audit:

Improve internal controls at the bookstore—February 2013, no. 8, p. 62

We recommend that Alberta College of Art + Design improve its internal control systems for its bookstore operations by:

- properly segregating incompatible job duties
- improving its inventory count procedures and investigating discrepancies between inventory counts and inventory records
- resolving software deficiencies in its inventory management computer application

Improve controls over contracts—February 2013, no. 9, p. 64

We recommend that Alberta College of Art + Design improve controls over contracts by:

- developing, documenting and enforcing contract procedures
- standardizing contracts with templates that ACAD's legal counsel approves
- developing systems to track and monitor all contracts prepared by all its departments

Implement a disaster recovery plan—February 2013, no. 10, p. 65

We recommend that Alberta College of Art + Design implement and test a disaster recovery plan.

Implement proper purchase controls—February 2013, no. 12, p. 67

We recommend that Alberta College of Art + Design ensure purchases are appropriately supported by purchase requisitions and purchase orders, in accordance with its policies and procedures.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Periodic financial reporting—April 2010, p. 160

(Originally April 2008, p. 180)

We again recommend that Alberta College of Art + Design improve its processes and controls to increase efficiency, completeness and accuracy of financial reporting.

Code of conduct, conflict of interest and fraud policies—April 2011, p. 72

We recommend that Alberta College of Art + Design:

- develop, implement and enforce policies for code of conduct and conflict of interest
- develop and implement a fraud policy that clearly defines actions, responsibilities, authority levels and reporting lines in case of fraud allegations

Improve risk management systems—March 2012, no. 3, p. 19

We recommend that the Alberta College of Art + Design:

- finalize its enterprise risk management framework document
- periodically update and manage the framework as it identifies new potential risks and opportunities
- enforce compliance with its risk management policy by requiring the president and CEO to periodically report the risks and mitigating strategies to the board

Strengthen controls over procurement cards transactions—February 2013, no. 11, p. 66

We recommend that Alberta College of Art + Design strengthen its processes over the authorization, review and approval of procurement card transactions.

Implement a change management policy and controls—February 2013, no. 13, p. 68

We recommend that Alberta College of Art + Design:

- implement its change management policy and control processes for all its IT assets
- obtain assurance that changes to the Banner application affecting its student information follow an appropriate change management process

ALBERTA INNOVATES—TECHNOLOGY FUTURES

The following recommendation is outstanding and not yet ready for a follow-up audit:

Improve project management governance and controls for new information systems—November 2011, no. 4, p. 65

We recommend that Alberta Innovates—Technology Futures improve its governance practices for the Corporate Information Systems project, by:

- establishing formal project management policies, processes, standards and controls for the Corporate Information System project
- establishing a project steering committee comprised of key stakeholders
- documenting and communicating the roles and responsibilities for all stakeholders, including the steering committee, board sub-committee and project sponsors
- updating the business case to set out the project's objectives that enables the steering committee to monitor and measure the project's progress
- formally assessing the impact of the project on other strategic business initiatives and periodically updating the assessment

ATHABASCA UNIVERSITY

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Improve conflict of interest procedures—October 2012, no. 19, p. 108

We recommend that Athabasca University update its policy and procedures, and implement a process for staff to annually disclose potential conflicts of interest in writing so the university can manage the conflicts proactively.

The following recommendations are outstanding and not yet ready for follow-up audits:

Information technology governance, strategic planning and project management: Improve governance and oversight of information technology—October 2010, no. 1, p. 21

We recommend that Athabasca University continue to improve its information technology governance by:

- developing an integrated information technology delivery plan that aligns with the university's information technology strategic plan
- requiring business cases for information technology projects that include key project information such as objectives, costs-benefit assessments, risks and resource requirements to support the steering committees' and executive committee's decisions and ongoing project oversight
- improving the coordination and communication between the information technology steering committees in reviewing, approving and overseeing projects

Information technology governance, strategic planning and project management: Improve portfolio and project management processes—October 2010, no. 2, p. 24

We recommend that Athabasca University continue to improve its portfolio management and project management processes for information technology projects by:

- clarifying and communicating the mandate and authority of the project management office
- setting project management and architectural standards, processes and methodologies, and training project managers on these
- monitoring and enforcing project managers' adherence to these standards, processes and methodologies
- tracking and managing project dependencies on scope, risks, budgets and resource requirements

Information technology governance, strategic planning and project management: Formalize information technology project performance monitoring and reporting—October 2010, p. 25

We recommend that Athabasca University formalize and improve its monitoring and oversight of information technology projects by:

- improving its systems to quantify and record internal project costs
- providing relevant and sufficient project status information to the information technology steering and executive committees, and summarized project information to the Athabasca University Governing Council Audit Committee
- completing post-implementation reviews on projects to verify that expected objectives and benefits were met and identify possible improvements to information technology governance, strategic planning and project management processes

Information technology governance, strategic planning and project management: Resolve inefficiencies in financial, human resources and payroll systems—October 2010, p. 27

We recommend that Athabasca University complete its plans to resolve the inefficiencies in its financial, human resources and payroll systems.

Implement enterprise risk management systems—October 2012, no. 18, p. 107

We recommend that Athabasca University implement an effective risk management system.

Formalize and improve change management planning—July 2013, no. 4, p. 35

We recommend that Athabasca University formalize its business change management plans to ensure its business operations, staff, faculty and students are adequately prepared for the implementation of its new administrative system.

Formalize and improve project management controls—July 2013, no. 5, p. 37

We recommend that Athabasca University ensure that a formalized project management and systems development methodology and approach are clearly defined, applied and available to all staff working on the project.

Establish information technology resumption capabilities—October 2013, no. 9, p. 96 (Originally October 2010, no. 10, p. 111)

We again recommend that Athabasca University:

- assess the risks and take the necessary steps to establish appropriate off-site disaster recovery facilities that include required computer infrastructure to provide continuity of critical information technology systems
- complete and test its existing disaster recovery plan to ensure continuous services are provided in the event of a disaster

GRANDE PRAIRIE REGIONAL COLLEGE

The following recommendations are outstanding and not yet ready for follow-up audits:

Improve conflict of interest procedures—February 2013, no. 14, p. 72

We recommend that Grande Prairie Regional College update its policy and procedures, and implement a process for directors and employees to annually disclose potential conflicts of interest in writing, so the college can manage the conflicts proactively.

KEYANO COLLEGE

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Improve general ledger processes—February 2013, no. 16, p. 78

We recommend that Keyano College improve accounting processes for the general ledger and stop relying on manual processes when creating its financial statements.

LETHBRIDGE COLLEGE

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Improve software patch policies and procedures—February 2013, no. 17, p. 81

We recommend that Lethbridge College implement an appropriate patch policy and procedures to update and protect the servers that host its enterprise resource planning system.

MACEWAN UNIVERSITY

The following recommendations are outstanding and not yet ready for follow-up audits:

Improve security of PeopleSoft computer system—March 2012, no. 2, p. 15

We recommend that MacEwan University improve the security of its PeopleSoft system to ensure that the university:

- uses the system to assign access permissions based on job roles, and properly limit access
- defines, monitors and enforces rules for segregation of duties
- authorizes and reviews logs of critical data changes
- provides appropriate oversight to maintain the integrity of security controls

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Systems over costs for internal working sessions and hosting guests—April 2010, p. 165

We recommend that MacEwan University:

- implement policies and guidance on appropriate expenses for events related to internal working sessions and for hosting guests
- follow its policies and processes for employee expense claims and corporate credit cards

Preserve endowment assets—April 2010, p. 170

We recommend that MacEwan University improve its endowment and related investment policies and procedures by:

- establishing and regularly reviewing a spending policy for endowments
- improving its processes to review its endowment related investments
- improving its reporting of investments and endowments to the audit and finance committee

Improve and implement university policies—April 2010, no. 18, p. 174

We recommend that MacEwan University improve its control environment by implementing or improving:

- a code of conduct and ethics policy and a process for staff to acknowledge they will adhere to its policies
- a process for staff to annually disclose potential conflicts of interest in writing so the university can manage them proactively
- a safe disclosure policy and procedure to allow staff to report incidents of suspected or actual frauds or irregularities
- a responsibility statement in its annual report to acknowledge management's role in maintaining an effective control environment

Ensure contracts are signed before work begins—April 2011, no. 3, p. 75

(Originally November 2006, no. 9, p. 35)

We again recommend that MacEwan University have signed contracts (interim or final) in place before projects start.

Improve financial business processes—March 2012, no. 1, p. 13

We recommend that MacEwan University improve its financial business processes by:

- establishing clearly documented processes and controls
- developing clear roles and responsibilities and communicating these to staff
- training staff on the policies, processes and controls relating to their roles and responsibilities
- implementing monitoring and review processes to ensure staff follow the policies, processes and controls

Limit use of a system/shared account—February 2013, no. 15, p. 73

We recommend that MacEwan University strengthen controls for posting financial transactions, so it can trace transactions to specific users.

MEDICINE HAT COLLEGE

The following recommendations are outstanding and not yet ready for follow-up audits:

Improve enterprise risk management systems—March 2012, no. 12, p. 31

We recommend that Medicine Hat College improve its risk assessment process by:

- documenting its assessment of risks for their impact and likelihood of occurrence
- prioritizing the key risks and clearly linking those risks to a program, operational plan or procedures designed to manage and monitor those risks
- formally reporting the key risks and mitigating actions to the board

Oversight by the board of governors—July 2013, no. 8, p. 62

We recommend that Medicine Hat College provide the Board of Governors with suitable and sufficient information regarding significant events and risks related to the college's international activities; and that the Board of Governors strengthen its processes to:

- ensure it is aware of significant risks the college faces
- monitor compliance of the college's international activities with the board's policies

Strategic and operational planning—July 2013, no. 9, p. 67

We recommend that Medicine Hat College implement systems to:

- clearly define the strategic and operational objectives for its international education activities
- provide business cases that assess the risks, benefits, costs and legal requirements before providing training in foreign countries
- set clear and measurable targets for planned outcomes
- periodically measure and report on progress towards achieving targets, meeting objectives and outcomes

Program management and monitoring—July 2013, no. 10, p. 72

We recommend that Medicine Hat College improve its management of its international education activities by:

- assessing and clearly defining the roles and responsibilities of its International Education Division
- implementing effective program delivery and quality assurance processes at its offshore campuses
- implementing an appropriate system of internal controls, financial reporting and accountabilities for its international education activities
- implementing contract management practices to ensure risks have been appropriately managed
- aligning the structure and management of the division to reflect these changes and to ensure adequate oversight

Improve controls over travel expenses—July 2013, no. 11, p. 77

We recommend that Medicine Hat College improve controls over travel expenses by enforcing its travel policy.

MOUNT ROYAL UNIVERSITY

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Improve year-end financial reporting—February 2013, no. 18, p. 82

We recommend that Mount Royal University review the adequacy of its financial statements closing process and improve its ability to produce timely and accurate financial statements.

NORQUEST COLLEGE

The following recommendations are outstanding and not yet ready for follow-up audits:

Improve controls over contracts—March 2012, no. 5, p. 23

We recommend that NorQuest College improve its controls over contract management.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Improve controls over donations—March 2012, no. 6, p. 24

We recommend that NorQuest College improve its processes to manage donations.

Segregate incompatible job duties—February 2013, no. 19, p. 84

We recommend that NorQuest College segregate access within the payroll module.

Provide guidance on employee spending—February 2013, no. 20, p. 85

We recommend that NorQuest College:

- improve policies and guidance on appropriate expenses for travel and hosting internal working sessions and guests
- follow its policies and processes for employee expense claims and corporate credit cards

Improve computer access controls for accountability—February 2013, no. 21, p. 86

We recommend that NorQuest College improve its computer access controls to ensure accountability over its information systems.

Regularly maintain information systems—February 2013, no. 22, p. 87

We recommend that NorQuest College regularly maintain its information systems to reduce the risk of security weaknesses.

Improve financial internal controls—February 2013, no. 23, p. 88**(Originally March 2012, no. 4, p. 22)**

We again recommend that NorQuest College improve its reconciliation of financial information, review of journal entries and documentation of these controls.

Improve quality control for year-end financial information—February 2013, no. 24, p. 89**(Originally March 2012, no. 7, p. 25)**

We again recommend that NorQuest College improve its quality control processes for preparing its year-end financial information to improve efficiency and accuracy.

Segregate incompatible job duties—February 2013, no. 25, p. 90**(Originally April 2010, p. 186)**

We again recommend that NorQuest College properly segregate incompatible job duties in its bookstore.

NORTHERN LAKES COLLEGE

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Define goals for preserving economic value of endowments—February 2013, no. 26, p. 92

We recommend that Northern Lakes College define its goals for the use and preservation of the economic value of endowment assets.

Improve controls over tuition revenue—February 2013, no. 27, p. 93

We recommend that Northern Lakes College improve controls over tuition revenue by implementing the following processes:

- review the approved fee schedule entered into the accounting system, to ensure completeness and accuracy
- review user access to the accounting system for tuition fees to ensure that roles and level of access are appropriately granted to individuals

Establish accounts receivable write-off policy—February 2013, no. 28, p. 94

We recommend that Northern Lakes College establish an accounts receivable write-off policy to ensure that balances are valid and appropriately valued.

OLDS COLLEGE

The following recommendations are outstanding and not yet ready for follow-up audits:

Improve systems on financial year-end reporting—February 2013, no. 29, p. 95**(Originally April 2011, p. 68; repeated March 2012, no. 8, p. 27)**

We again recommend that Olds College further improve its processes and controls over year-end financial reporting.

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Improve segregation of privileged user access roles—February 2013, no. 30 p. 96**(Originally March 2012, no. 9, p. 28)**

We again recommend that Olds College segregate privileged systems access from data entry responsibilities and business functions.

PORTAGE COLLEGE

The following recommendations are outstanding and not yet ready for follow-up audits:

Follow access controls and remove access promptly—March 2012, no. 13, p. 32

We recommend that Portage College ensure that employees follow its system user-access control procedures and that management promptly removes access privileges when staff leave.

Develop and test a business resumption plan—March 2012, no. 14, p. 33

We recommend that Portage College fully develop and test a business resumption plan to ensure that it can resume IT services in a reasonable time after a disaster.

Improve controls over bookstore inventory—March 2012, no. 15, p. 34

(Originally April 2011, p. 82)

We again recommend that Portage College improve the accuracy of its perpetual inventory system at the bookstore.

Improve information system change management—February 2013, no. 31, p. 98

We recommend that Portage College develop and implement formal change management policies and control procedures to ensure all changes to systems and applications within the computing environment are implemented in a consistent and controlled manner.

RED DEER COLLEGE

The following recommendation is outstanding and not yet ready for a follow-up audit:

Improve general computer control environment—February 2013, no. 32, p. 100

We recommend that Red Deer College improve its general computer control environment by:

- finalizing its risk assessment process and implementing a comprehensive IT control and governance framework for its key processes
- implementing appropriate security over information and information technology assets
- managing changes to computer programs
- testing its disaster recovery plan and then assessing its adequacy

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Systems over costs for internal working sessions and hosting guests—April 2010, p. 167

We recommend that Red Deer College:

- implement policies and guidance on appropriate expenses for internal working sessions and hosting guests
- strengthen its processes to ensure staff follows its policies and processes for employee expense claims and corporate credit cards

SOUTHERN ALBERTA INSTITUTE OF TECHNOLOGY

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

IT strategic plan—February 2013, no. 33, p. 101

We recommend that SAIT reassess and update its IT action plan. We further recommend that SAIT develop:

- a project plan with effective controls to ensure its plan is implemented on time and achieves SAIT's strategic objectives
- an effective process to identify, rank and prioritize all IT projects and update plans as needed

UNIVERSITY OF ALBERTA

The following recommendation is outstanding and not yet ready for a follow-up audit:

Improve controls over bookstore inventory—October 2012, no. 20, p. 110

We recommend that the University of Alberta:

- improve its controls to value the bookstore's inventory
- develop policies and processes to identify obsolete inventory in its bookstores and in storage
- develop processes to regularly review the cost of goods it holds in inventory

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Systems over costs for internal working sessions and hosting guests—April 2010, p. 167

We recommend that the University of Alberta follow its policies and processes for employee expense claims and corporate credit cards.

UNIVERSITY OF CALGARY

The following recommendations are outstanding and not yet ready for follow-up audits:

Enterprise risk management—November 2011, no. 5, p. 67

We recommend that the University of Calgary adopt an integrated risk management approach to identify and manage the risks that impact the university as a whole.

Remove users' access privileges promptly—October 2012, no. 21, p. 112

We recommend that the University of Calgary:

- define an acceptable timeframe to disable or remove users from the application and the network
- document, communicate and consistently follow a process to deactivate users from the university's information technology systems within the defined timeframe

UNIVERSITY OF LETHBRIDGE

The following recommendation is outstanding and not yet ready for a follow-up audit:

Information technology internal control framework—October 2007, no. 21, vol. 2, p. 23

We recommend that the University of Lethbridge implement an information technology control framework.

Environment and Sustainable Resource Development

SUMMARY

DEPARTMENT

Matters from current audit

The Department of Environment and Sustainable Resource Development should improve the security patch management of servers.

Matters from prior audits

The department has implemented our 2008 recommendation to improve its controls over revenue.

FINDINGS AND RECOMMENDATIONS

DEPARTMENT

Matters from current audit

Security patch management of servers

Background

Patches and updates to operating systems are a critical component in keeping information secure. To be effective, these patches must be applied promptly. Properly patched systems are less vulnerable to external attacks and the risk that someone will compromise information contained in the system.

RECOMMENDATION 10: SECURITY PATCH MANAGEMENT OF SERVERS

We recommend that the Department of Environment and Sustainable Resource Development regularly update its computer servers with security and operating system patches to reduce the risk of security weaknesses.

Criteria: the standard for our audit

The department should maintain its servers, applications and other devices to a secure standard. The department should have a formal process to patch, update and monitor all servers and devices it uses to host applications that are critical for its business.

KEY FINDINGS

- The department did not consistently and promptly maintain its critical business servers with the latest patches.
- A patch management control policy and procedure has been drafted, but has not been approved or implemented.

Our audit findings

Through our audit testing (as of December 2012) we found that, since July 2012, the department had not regularly updated its computer servers with security and operating system patches. The following were noted:

- 16 stand-alone servers had not been patched
- 67 virtual servers had not been patched

We also noted that a formal patch management control policy and procedure had been written, but not approved or implemented by the department.

Implications and risks if recommendation not implemented

Delays in implementing security patches make the department's computer systems more vulnerable to unauthorized access to its financial and business applications.

Matters from prior audits**Controls over revenue—implemented****Our audit findings**

The department has implemented our 2008 recommendation¹ to record significant revenue when it is due to the crown, rather than recording revenue when it has been received.

OUTSTANDING RECOMMENDATIONS**MINISTRY AND DEPARTMENT**

The following recommendations are outstanding and not yet ready for follow-up audits:

Drinking water: Information systems—October 2006, no. 4, vol. 1, p. 52

We recommend that the Department of Environment and Sustainable Resource Development improve the information systems used to manage its drinking water businesses by:

- updating the Environmental Management System forms and improving reporting capacity
- coordinating regional, district, and personal information systems to avoid overlap and encourage best practice, and
- using data to improve program effectiveness and efficiency

Sand and gravel: Flat fee security deposit—October 2008, no. 41, p. 362

We recommend that the Department of Environment and Sustainable Resource Development assess the sufficiency of security deposits collected under agreements to complete reclamation requirements.

Climate change: Data quality—October 2009, p. 40

We recommend that the Department of Environment and Sustainable Resource Development strengthen its guidance for baseline and compliance reporting by:

- clarifying when uncertainty calculations must be done
- prescribing the minimum required quality standards for data in terms of minimum required frequency of measurement and connection to the period being reported on
- describing the types of data controls that facilities should have in place

¹Report of the Auditor General of Alberta—October 2008, no. 39, page 355.

Climate change: Guidance to verifiers of facility baseline and compliance reports

—October 2009, no. 3, p. 42

We recommend that the Department of Environment and Sustainable Resource Development strengthen its baseline and compliance guidance for verifiers by improving the description of the requirements for:

- the nature and extent of testing required
- the content of verification reports
- assurance competencies

Climate change: Outsourced service providers—October 2009, p. 49

We recommend that the Department of Environment and Sustainable Resource Development develop controls to gain assurance that data hosted or processed by third parties is complete, accurate and secure. We also recommend that the Department of Environment and Sustainable Resource Development formalize its agreement with its service provider for the Alberta Emissions Offset Registry.

Climate change: Cost-effectiveness of regulatory processes—October 2009, no. 5, p. 51

We recommend that the Department of Environment and Sustainable Resource Development assess the cost-effectiveness of the *Specified Gas Emitters Regulation*.

Financial security for land disturbances—October 2009, no. 23, p. 207

(Originally October 1999, no. 30, p. 158; repeated 2001, no. 8, p. 90; and unsatisfactory progress October 2005, no. 31, p. 180)

We again recommend that the Department of Environment and Sustainable Resource Development implement a system for obtaining sufficient financial security to ensure parties complete the conservation and reclamation activity that the department regulates.

Managing Alberta's water supply: Backlog of *Water Act* applications—April 2010, no. 4, p. 65

We recommend that the Department of Environment and Sustainable Resource Development minimize the backlog of outstanding applications for *Water Act* licences and approvals.

Managing Alberta's water supply: Assessing compliance with the *Water Act*

—April 2010, no. 5, p. 68

We recommend that the Department of Environment and Sustainable Resource Development ensure its controls provide adequate assurance that performance in the field by licence and approval holders as well as others complies with the *Water Act*.

Managing Alberta's water supply: Wetland compensation—April 2010, no. 6, p. 71

We recommend that the Department of Environment and Sustainable Resource Development formalize its wetland compensation relationships and control procedures.

Managing Alberta's water supply: Watershed planning and advisory councils grants and contracts—April 2010, no. 7, p. 73

We recommend that the Department of Environment and Sustainable Resource Development strengthen its control of grants and contracts with Watershed Planning and Advisory Councils.

Climate change: Clarify guidance—November 2011, no. 1, p. 17

(Originally October 2009, no. 4, p. 46)

We again recommend the Department of Environment and Sustainable Resource Development clarify the guidance it provides to facilities, verifiers, offset project developers and offset protocol developers, to ensure they consistently follow the requirements in place to achieve the Alberta government's emissions reduction targets.

Climate change: Ensure all protocols meet new standard, and improve transparency—November 2011, no. 2, p. 23

We recommend the Department of Environment and Sustainable Resource Development implement processes to ensure that all approved protocols adhere to its protocol development standard. We also recommend the Department of Environment and Sustainable Resource Development improve its transparency by making key information about how protocols are developed publicly available.

**Climate change: Public reporting—October 2012, no. 10, p. 38
(Originally October 2008, no. 11, p. 101)**

We again recommend that the Ministry of Environment and Sustainable Resource Development improve the reliability, comparability and relevance of its public reporting on Alberta's results and costs incurred in meeting climate change targets.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Climate change: Planning—October 2008, no. 9, p. 97

We recommend that the Ministry of Environment and Sustainable Resource Development improve Alberta's response to climate change by:

- establishing overall criteria for selecting climate-change actions
- creating and maintaining a master implementation plan for the actions necessary to meet the emissions-intensity target for 2020 and the emissions-reduction target for 2050
- corroborating—through modeling or other analysis—that the actions chosen by the ministry result in Alberta being on track for achieving its targets for 2020 and 2050

Climate change: Monitoring processes—October 2008, no. 10, p. 100

We recommend that for each major action in the 2008 Climate Change Strategy, the Ministry of Environment and Sustainable Resource Development evaluate the action's effect in achieving Alberta's climate change goals.

Sand and gravel: Enforcement of reclamation obligations—October 2008, no. 40, p. 360

We recommend that the Department of Environment and Sustainable Resource Development improve processes for inspecting aggregate holdings on public land and enforcing land reclamation requirements.

Sand and gravel: Quantity of aggregate removed—October 2008, p. 364

We recommend that the Department of Environment and Sustainable Resource Development develop systems to verify quantities of aggregate reported as removed by industry from public lands so that all revenue due to the Crown can be assessed and recorded in the financial statements.

Sand and gravel: Information management—October 2008, p. 366

We recommend that the Department of Environment and Sustainable Resource Development capture and consolidate information throughout the life of an aggregate holding and use it to test compliance with legal obligations.

Climate change: Technical review—October 2009, p. 45

We recommend that the Department of Environment and Sustainable Resource Development strengthen its technical review processes by:

- requiring facilities to provide a process map with their compliance reporting
- ensuring staff document their follow-up activity and decisions in the department's regulatory database

NATURAL RESOURCES CONSERVATION BOARD

The following recommendations are outstanding and not yet ready for follow-up audits:

Compliance and enforcement (Confined feeding operations)—October 2007, no. 34, vol. 2, p. 167 (Originally October 2004, no. 28, p. 294)

We again recommend that the Natural Resources Conservation Board rank its compliance and enforcement activities based on risk. To do so, the board must:

- define through research the environmental risks applicable to CFOs and their impact
- categorize CFOs by priority levels of environmental risk at different locations
- conduct appropriate sampling and testing to confirm the validity of assigned risk levels
- select and deliver appropriate compliance and enforcement action

Surface water risks—April 2011, no. 2, p. 59

We recommend that the Natural Resources Conservation Board demonstrate that its compliance approach is adequate in proactively managing surface water risks.

Executive Council

OUTSTANDING RECOMMENDATIONS

The following recommendations are outstanding and not yet ready for follow-up audits:

Chief executive officer: Guidance—October 2008, no. 1, p. 27

We recommend that the Deputy Minister of Treasury Board and Finance through the Agency Governance Secretariat assist agencies and departments by providing guidance in the areas of chief executive officer selection, evaluation and compensation.

Chief executive officer: Accountability—October 2008, no. 2, p. 29

We recommend the Agency Governance Secretariat, on behalf of ministers, annually obtain information from agencies on chief executive officer evaluation and compensation processes to assess if good practices are being consistently followed. The results of these systems assessments should be reported to ministers who should then hold boards of directors accountable for their decisions.

Public agencies: Executive compensation practices—October 2009, no. 1, p. 23

We recommend that the Deputy Minister of Treasury Board and Finance, through the Agency Governance Secretariat, assist public agencies and departments by providing guidance on executive compensation practices for all public agency senior executives.

Assess risk and improve oversight—October 2012, no. 11, p. 62

We recommend that Executive Council:

- assess the risks to public information assets throughout the government
- determine if the government has adequate IT security policies, standards and controls to mitigate risks
- determine who is responsible and accountable to ensure that public information assets are adequately protected. Specifically:
 - who is responsible for monitoring compliance with IT security requirements
 - who is responsible for ensuring or enforcing compliance with security requirements
 - what actions should be taken when non-compliance is identified
 - how is compliance to security requirements demonstrated

Health

SUMMARY

DEPARTMENT

Matters from the current audit

See Health and Alberta Health Services—Infection Prevention and Control at Alberta Hospitals—see page 17.

Matters from prior audits

See Agriculture and Rural Development, Health and Alberta Health Services—Provincial Food Safety Follow-up—see page 51.

See Health—Health and Alberta Health Services—Select Electronic Health Record Processes Follow-up—see page 67.

ALBERTA HEALTH SERVICES

Alberta Health Services has implemented:

- our October 2012 recommendation to improve documentation of its conversions from legacy systems to new systems
- our October 2009 recommendation to improve its controls for physician recruitment incentives
- our October 2009 recommendation relating to the funding and approval for capital projects

We have also concluded there have been changed circumstances related to our October 2010 recommendation to ensure that funding agreements are signed prior to commencement of construction of capital projects.

FINDINGS AND RECOMMENDATIONS

ALBERTA HEALTH SERVICES

Matters from prior audits

Data conversion testing—implemented

In 2012¹ we recommended that Alberta Health Services improve documentation of its conversions from legacy systems to new systems by requiring the project team to clearly document how they ensured:

- converted data is complete and accurate
- the new system functions with the converted data as intended

Our audit findings

This recommendation has been implemented.

¹ Report of the Auditor General of Alberta—October 2012, no. 22, page 119.

We reviewed the conversion of payroll data from three former health regions into Alberta Health Services' consolidated payroll system. AHS demonstrated the converted data was complete and accurate by documenting:

- data quality scorecards to track conversion clean-up issues
- data mapping specifications such as details of the business requirements system configuration details, target table details and a process run-book
- data mapping workbooks for new data fields and the associated legacy records and fields that map to them
- output files for all loading and transformation of data from legacy systems to the new system

AHS demonstrated that it had tested the system to make sure it functioned as intended. Specifically, AHS has documented:

- manual validation checklists for functional testing of converted data
- multiple cycles of testing of the data conversion from August to November 2012
- issues identified during the conversion testing—These were logged in a tracking system for resolution.

Physician recruitment incentives—implemented

In 2009² we recommended that AHS improve controls for physician recruitment incentives by developing and implementing a policy that identifies:

- criteria and approvals required for granting loans, income guarantees and relocation allowances
- monitoring and collection procedures for loans to physicians

We made this recommendation because we found that Palliser Health Region (a predecessor organization to AHS) did not have a policy for granting physician recruitment incentives, including loans. We also found that Palliser Health Region did not have documented procedures for collecting and monitoring the loans. Monitoring was informal and loan interest was not recognized until the final loan payment had been received.

Our audit findings

This recommendation is implemented.

AHS has created a physician recruitment policy and updated its physician recruitment guidelines, standards and directives.

AHS has also clarified its policy for the approvals required for relocation allowances. AHS is no longer issuing loans to physicians.

Capital project funding and approval—implemented

In October 2009³ we recommended that Alberta Health Services:

- obtain appropriate approval from the Minister of Health and Wellness and secure adequate capital funding before starting capital projects that are internally funded or debt financed
- ensure budgets include the estimated future operating costs associated with new capital

² Report of the Auditor General of Alberta—October 2009, page 279.

³ Report of the Auditor General of Alberta—October 2009, no. 31, page 269.

AHS has two categories of capital projects:

- **major capital projects**—These are projects with a budgeted cost exceeding \$5 million. Since our 2009 audit, the Department of Infrastructure has become responsible for the funding and building of major capital projects such as hospitals on behalf of AHS. AHS is responsible for building major capital projects it finances through debt, such as parkades.
- **minor capital projects**—These are projects with a budgeted cost below \$5 million. The majority of these projects are infrastructure maintenance projects that are financed through grants by the Department of Infrastructure, but are administered by AHS. In cases where projects do not meet the infrastructure maintenance program requirements, AHS finances and administers these projects internally or may receive grants from other entities such as foundations.

Our audit findings

This recommendation is implemented.

We tested a sample of new capital projects in each category for projects approved and started between April 1, 2011 and December 31, 2012. We found that capital projects were approved appropriately and capital funding was secured before the project started. Future operating costs were included as part of the information supporting the capital budget process.

Funding agreements for capital projects—changed circumstances

In October 2010⁴ we recommended that Alberta Health Services ensure that funding agreements are signed prior to commencement of construction of capital projects and are formally amended when there are significant changes in the scope of a capital project.

We made this recommendation because Alberta Health Services and a predecessor organization, Capital Health, had awarded a public-private-partnership to a service provider for a long-term care facility, then changed the purpose of the facility and had most of the construction completed by the service provider, all before signing an agreement with the service provider.

Our audit findings

Beginning in June 2012, AHS no longer enters into new arrangements to provide funding for the construction of continuing care facilities owned by service providers.

OUTSTANDING RECOMMENDATIONS

MINISTRY AND DEPARTMENT

The following recommendations are outstanding and not yet ready for follow-up audits:

Electronic health records: User access management—October 2009, p. 80

We recommend that the Department of Health ensure that its user access management policies are followed and that user access to health information is removed when access privileges are no longer required.

Department's accountability for the Primary Care Networks program—July 2012, no. 5, p. 35

We recommend that the Department of Health:

- establish clear expectations and targets for each of the PCN program objectives
- develop systems to evaluate and report performance of the PCN program

⁴ *Report of the Auditor General of Alberta—October 2010, no. 20, page 166.*

Engagement and accountability to Primary Care Network patients—July 2012, no. 7, p. 42

We recommend that the Department of Health proactively inform Albertans which Primary Care Network they have been assigned to, and what services are available through their PCN.

Centralized support by the Department—July 2012, no. 8, p. 43

We recommend that the Department of Health improve its systems to provide information and support to help Primary Care Networks and Alberta Health Services achieve PCN program objectives.

Department's systems to oversee Primary Care Networks—July 2012, no. 9, p. 48

We recommend that the Department of Health improve its systems for oversight of Primary Care Networks by:

- obtaining assurance that PCNs are complying with the financial and operating policies of the PCN program
- ensuring PCN surplus funds are used in a timely and sustainable manner

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Seniors care: Effectiveness of services in long-term care facilities—October 2005, no. 8, p. 59

We recommend that the Department of Health collect sufficient information about facility costs from Alberta Health Services and long-term care facilities to make accommodation rate and funding decisions.

Implementing the Provincial Mental Health Plan—The accountability framework—April 2008, no. 4, p. 77

We recommend that the Department of Health ensure there is a complete accountability framework for the Provincial Mental Health Plan and mental health services in Alberta.

HEALTH AND AGRICULTURE AND RURAL DEVELOPMENT

The following recommendation is outstanding and not yet ready for a follow-up audit:

Food safety: Accountability—October 2013, no. 5, p. 59

(Originally October 2006, no. 12, p. 105; repeated as October 2009, no. 13, p. 114)

We again recommend that the Departments of Health and Agriculture and Rural Development improve reporting on food safety in Alberta.

HEALTH, AGRICULTURE AND RURAL DEVELOPMENT AND ALBERTA HEALTH SERVICES

The following recommendation is outstanding and not yet ready for a follow-up audit:

Food safety: Eliminating gaps in food safety inspection coverage—October 2009, no. 12, p. 111

(Originally October 2006, vol. 1, p. 102)

We again recommend that Alberta Health Services and the Departments of Health and Agriculture and Rural Development, working with federal regulators, eliminate the existing gaps in food safety coverage in Alberta. Gaps include:

- mobile butchers
- consistently administering the Meat Facility Standard
- coordinating inspections in the “non-federally registered” sector

DEPARTMENT OF HEALTH AND ALBERTA HEALTH SERVICES

The following recommendations are outstanding and not yet ready for follow-up audits:

Seniors care: Effectiveness of services in long-term care facilities—October 2005, no. 7, p. 59

We recommend that the Department of Health and Alberta Health Services assess the effectiveness of services in long-term care facilities.

Mental health: Standards—October 2008, no. 16, p. 162

We recommend that the Department of Health and Alberta Health Services create provincial standards for mental health services in Alberta.

Management has identified these recommendations as implemented—to be confirmed with a follow-up audit:

Implementing the Provincial Mental Health Plan: Implementation systems—April 2008, no. 3, p. 72

We recommend that Alberta Health Services and the Department of Health, working with other mental health participants, strengthen implementation of the Provincial Mental Health Plan by improving:

- implementation planning
- the monitoring and reporting of implementation activities against implementation plans
- the system to adjust the *Plan* and implementation initiatives in response to changing circumstances

Mental health: Funding, planning, and reporting—October 2008, p. 186

We recommend that the Department of Health and Alberta Health Services ensure the funding, planning, and reporting of mental health services supports the transformation outlined in the Provincial Mental Health Plan as well as system accountability.

Mental health: Aboriginal and suicide priorities—October 2008, p. 190

We recommend that the Department of Health and Alberta Health Services consider whether the implementation priority for aboriginal and suicide issues is appropriate for the next provincial strategic mental health plan.

ALBERTA HEALTH SERVICES

The following recommendations are outstanding and not yet ready for follow-up audits:

Seniors care: Compliance with Basic Service Standards—October 2005, no. 6, p. 58

We recommend that the Department of Health and Alberta Health Services improve the systems for monitoring the compliance of long-term care facilities with the Basic Service Standards. (Outstanding with respect to Alberta Health Services only.)

Seniors care: Information to monitor compliance with legislation—October 2005, p. 61

We recommend that the Department of Health, working with Alberta Health Services, identify the information required from long-term care facilities to enable the Department and Alberta Health Services to monitor their compliance with legislation. (Outstanding with respect to Alberta Health Services only.)

Contracting practices: Internal controls—November 2006, no. 1, p. 14

We recommend that Alberta Health Services management improve controls over contracting by:

- ensuring adequate segregation of duties exists over the contracting process
- monitoring and verifying contractors' compliance with contract terms and conditions

Contracting practices: Board governance—November 2006, no. 3, p. 17

We recommend that the Alberta Health Services Board, at least annually, receive reports from management on the design and effectiveness of the Alberta Health Services internal controls.

Mental health: Housing and supportive living—October 2008, no. 17, p. 164

We recommend that Alberta Health Services encourage mental health housing development and provide supportive living programs so mental health clients can recover in the community.

Mental health: Concurrent disorders—October 2008, no. 18, p. 168

We recommend that Alberta Health Services strengthen integrated treatment for clients with severe concurrent disorders (mental health issues combined with addiction issues).

Mental health: Gaps in service—October 2008, no. 19, p. 171

We recommend that Alberta Health Services reduce gaps in mental health delivery services by enhancing:

- mental health professionals at points of entry to the system
- coordinated intake
- specialized programs in medium-sized cities
- transition management between hospital and community care

Mental health: Provincial coordination—October 2008, p. 176

We recommend that Alberta Health Services coordinate mental health service delivery across the province better by:

- strengthening inter-regional coordination
- implementing standard information systems and data sets for mental health
- implementing common operating procedures
- collecting and analyzing data for evidence-based evaluation of mental health programs

Mental health: Community-based service delivery—October 2008, p. 181

We recommend that Alberta Health Services strengthen service delivery for mental health clients at regional clinics by improving:

- wait time management
- treatment plans, agreed with the client
- progress notes
- case conferencing
- file closure
- timely data capture on information systems
- client follow up and analysis of recovery

Information technology control policies and processes—October 2009, no. 29, p. 262

We recommend that Alberta Health Services:

- develop an information technology control framework, including appropriate risk management processes and controls, for the management of its information technology resources
- monitor compliance with security policies, implementing effective change management processes and improving passwords controls

Capital project monitoring systems—October 2009, no. 32, p. 271

We recommend that Alberta Health Services improve the efficiency and effectiveness of its financial capital project monitoring and reporting systems and processes by:

- implementing common systems, policies and procedures to track and monitor key financial information
- providing relevant, timely and accurate information to Executive Management and the Audit and Finance Committee

Approval of drug purchases—October 2009, p. 278

We recommend that Alberta Health Services improve controls for drug purchases by ensuring they are properly approved and duties are appropriately segregated.

Financial operations transition plan—October 2010, no. 19, p. 164

We recommend that Alberta Health Services prepare and implement a formal transition plan for the organization's finance operations. The plan should include and integrate the following:

- assessing the resources, timelines and critical path needed to consolidate the general ledger and sub-ledger systems
- ensuring rigorous change management controls are applied before implementing application system changes
- harmonizing financial reporting policies and processes across the organization
- determining the adequate amount of human resources and skill levels required to implement the plan and then keep the processes operational

Effectiveness of insurance reciprocal—October 2010, no. 21, p. 167

We recommend that Alberta Health Services assess the effectiveness of its arrangement with the Liability and Property Insurance Plan as a risk management tool, and assess the resulting accounting implications.

Waste handling policies and procedures at AHS sites—July 2012, no. 2, p. 16

We recommend that Alberta Health Services improve the handling and disposal of healthcare waste materials at its sites by:

- standardizing healthcare waste materials handling policies and procedures across sites
- establishing processes to monitor and enforce facilities' compliance with healthcare waste materials handling policies and procedures
- ensuring chemical waste hazards are remediated promptly
- pursuing more opportunities to reduce, reuse and recycle materials that could enter the healthcare waste stream

Contract management for disposal of healthcare waste materials at AHS sites—July 2012, no. 3, p. 19

We recommend that Alberta Health Services take steps to improve its contract management processes for healthcare waste materials by:

- requiring sites to verify services have been performed before approving vendor invoices for payment
- developing risk-focused systems to monitor healthcare waste management for purposes of controlling volumes and costs

Healthcare waste materials at contracted health service providers—July 2012, no. 4, p. 21

We recommend that Alberta Health Services assess its risk related to healthcare waste materials produced by contracted health service providers and ensure contract provisions manage that risk.

AHS accountability for Primary Care Networks—July 2012, no. 6, p. 40

We recommend that Alberta Health Services within the context of its provincial primary healthcare responsibilities:

- define goals and service delivery expectations for its involvement in PCNs
- define performance measures and targets
- evaluate and report on its performance as a PCN joint venture participant

Fees and charges—October 2012, no. 25, p. 123

We recommend that Alberta Health Services:

- reinforce its admissions policies to ensure consistent application
- review its controls over the processes that generates fees and charges revenue, to ensure they are appropriately designed, consistent across regions and aligned with current policies

Controls over expenses—February 2013, no. 1, p. 24

We recommend that Alberta Health Services tighten its controls over expense claims, purchasing card transactions and other travel expenses by:

- improving the analysis and documentation that support the business reasons for—and the cost effectiveness of—these expenses
- improving education and training of staff on their responsibilities for complying with policies
- monitoring expenses and reporting results to the board

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Performance measures for surgical services—October 2001, p. 135

We recommend that Alberta Health Services establish a comprehensive set of outcome-based performance measures for surgical facility services and incorporate these standards of performance into ongoing monitoring of contracted facilities.

Mental health: Not-for-profit organizations—October 2008, p. 169

We recommend that Alberta Health Services improve relationships with not-for-profit organizations to provide better coordinated service delivery.

Contract documentation—October 2008, p. 312

We recommend that Alberta Health Services develop and implement a sole-sourcing policy for contracts and ensure that sole sourcing is clearly documented and justified. We also recommend Alberta Health Services ensure contract amendments, including changes to deliverables, are documented and agreed to by both parties.

Expenditure policies and approvals—October 2009, p. 277

We recommend that Alberta Health Services improve the efficiency and effectiveness of its expense approval controls by:

- developing and implementing a clear and comprehensive expenditure approval policy
- automating the expenditure controls within the purchasing system

Accounting for restricted contributions—October 2010, no. 22, p. 168

We recommend that Alberta Health Services implement consistent and efficient accounting processes for externally restricted contributions to assure the Alberta Health Services board that it is complying with the restrictions attached to those contributions.

Oversight at AHS waste generating sites—July 2012, no. 1, p. 15

We recommend that Alberta Health Services establish systems for overseeing the management of healthcare waste materials at all AHS sites that generate these materials.

Payroll—accuracy monitoring activities—October 2012, no. 23, p. 121

We recommend that Alberta Health Services improve its monitoring activities to ensure the accuracy of transactions in its payroll system.

Accounts payable system—goods received not invoiced listing—October 2012, no. 24, p. 122

We recommend that Alberta Health Services complete the review of old amounts on the Goods Received Not Invoiced report to validate amounts or resolve issues as they arise before year end.

Journal entry review process—October 2012, no. 26, p. 124

We recommend that Alberta Health Services implement a recurring process to ensure significant and/or unusual journal entries are reviewed and approved appropriately.

Human Services

SUMMARY

DEPARTMENT

There are no new recommendations to the Department of Human Service in this report.

OFFICE OF THE PUBLIC TRUSTEE

These recommendations were made as a result of our annual assurance audit. Follow-up of our systems audit recommendations¹ will be completed when the department indicates they have been implemented.

The Office of the Public Trustee has:

- implemented our October 2010 recommendation to improve controls for inputting new vendors in its Public Trustee Information System
- implemented our October 2010 recommendation to improve its controls for issuing and stopping recurring payments.

FINDINGS AND RECOMMENDATIONS

OFFICE OF THE PUBLIC TRUSTEE

Matters from prior audits

New vendor set-up—implemented

In 2010² we recommended that the Office of the Public Trustee improve controls over the input of new vendors in the Office of the Public Trustee's information system.

Our audit findings

We noted that the Office of the Public Trustee introduced a validation policy that standardized the process and information required to set up a new vendor. We tested a sample of new vendors added to the system in both Edmonton and Calgary. Each new vendor set up request was reviewed by a financial services supervisor to ensure vendors were valid before they were entered into the system.

Recurring payments—implemented

In 2010³ we recommended that the Office of the Public Trustee improve its controls for recurring payments.

Our audit findings

We observed that management implemented a recurring transaction policy to review these payments semi-annually. We tested a sample and noted that trust officers confirmed that recurring payments from client trust accounts were valid and correct. Senior trust officers

¹ Report of the Auditor General of Alberta—February 2013, nos. 2-6, pages 33-50.

² Report of the Auditor General of Alberta—October 2010, no. 24, page 180.

³ Report of the Auditor General of Alberta—October 2010, page 180.

reviewed the monthly reports and forwarded them to financial services staff, who monitor that the review process is occurring.

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

The following recommendations are outstanding and not yet ready for follow-up audits:

Occupational health and safety: Work Safe Alberta planning and reporting—April 2010, p. 43

We recommend that the Department of Human Services improve its planning and reporting systems for occupational health and safety by:

- obtaining data on chronic injuries and diseases to identify potential occupational health and safety risks
- completing the current update of the Work Safe Alberta Strategic Plan
- measuring and reporting performance of occupational health and safety programs and initiatives that support key themes of the *Plan*

Occupational health and safety: Certificate of Recognition—April 2010, p. 48

We recommend that the Department of Human Services improve its systems to issue Certificates of Recognition by:

- obtaining assurance on work done by Certificate of Recognition auditors
- consistently following up on recommendations made to certifying partners

Occupational health and safety: Promoting and enforcing compliance—July 2012, no. 12, p. 83 (Originally April 2010, no. 3, p. 39)

We again recommend that the Department of Human Services enforce compliance with the law by high-risk employers and workers.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Child intervention services: Accreditation systems for service providers—October 2007, no. 7, vol. 1, p. 82

We recommend that the Department of Human Services evaluate the cost-effectiveness of accreditation systems and the assurance they provide.

Child intervention services: Department compliance monitoring—October 2007, no. 8, vol. 1, p. 83

We recommend that the Department of Human Services improve compliance monitoring processes by:

- incorporating risk-based testing in case-file reviews
- providing feedback to caseworkers on monitoring results of case-file reviews
- obtaining and analyzing information on Authorities' monitoring of service providers

Monitoring and enforcement of training providers—October 2008, no. 24, p. 245

We recommend that the Department of Human Services improve its monitoring of tuition-based training providers by:

- assessing whether performance expectations are being met
- quantifying tuition refunds that may be owing to the department
- implementing policies and procedures that outline steps and timelines for dealing with non-compliance problems

CHILD AND FAMILY SERVICES AUTHORITIES

Management has identified these recommendations as implemented—to be confirmed with a follow-up audit:

Child intervention services: Authorities compliance monitoring processes—October 2007, vol. 1, p. 86

We recommend that the Child and Family Services Authorities improve compliance monitoring processes by providing caseworkers with:

- training on file preparation and maintenance
- feedback from the monitoring results of case-file reviews

Child intervention services: Authorities monitoring of service providers—October 2007, vol. 1, p. 88

We recommend that the Child and Family Services Authorities improve the evaluation of service providers by coordinating monitoring activities and sharing the results with the department.

OFFICE OF THE PUBLIC TRUSTEE

The following recommendations are outstanding and not yet ready for follow-up audits:

Supervisory review of client files—February 2013, no. 2, p. 42

We recommend that the Office of the Public Trustee improve its file management processes to ensure all client files are subject to adequate supervisory review.

Internal audit role—February 2013, no. 3, p. 42

We recommend that the Office of the Public Trustee strengthen the role of its internal audit, ensuring it has adequate authority and independence to effectively perform its function.

Improve and follow policies—February 2013, no. 4, p. 45

We recommend that the Office of the Public Trustee:

- review and assess whether its policies are appropriate, and procedures are adequate to mitigate the risk that client assets could be misappropriated or otherwise mismanaged
- improve its processes for ensuring compliance with policies and procedures

Segregation of duties—February 2013, no. 5, p. 47

We recommend that the Office of the Public Trustee strengthen its processes for the approval and payment of client expenses or disbursements.

Documentation—February 2013, no. 6, p. 48

We recommend that the Office of the Public Trustee improve its processes for ensuring client files are appropriately documented, including adequate documentation of supervisory review and internal audit.

PERSONS WITH DEVELOPMENTAL DISABILITIES BOARDS

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Contract monitoring and evaluation—October 2004, no. 9, p. 111

We recommend that the Persons with Developmental Disabilities Provincial Board work with the six community boards to strengthen the monitoring and evaluation of the performance of service providers by:

- requiring individual funding service providers to provide adequate financial reporting
- obtaining annual financial statements to evaluate the financial sustainability of critical service providers

- implementing a sustainable, risk-based internal audit plan
- developing and implementing standard procedures to be followed when Community Board staff are in contact with service providers
- implementing a method to evaluate service provider performance

Infrastructure

SUMMARY

DEPARTMENT

Matters from the current audit

There are no new recommendations to the Department of Infrastructure in this report.

Matters from prior audits

The department has implemented our 2009 recommendation to develop and implement an IT risk assessment framework.

FINDINGS AND RECOMMENDATIONS

Matters from prior audits

IT risk assessment—implemented

Our audit findings

The department implemented our 2009 recommendation¹ to develop and implement an IT risk assessment framework by designing a process to assess IT risks within IT projects, the IT group and the department.

The department is maintaining a register of information technology threats and risks that could have an impact on business activities. The department's threat and risk management team assesses risks at the department level. The team includes the Information Technology group and is led by the business area. The Information Technology group, with business area participation, assesses risk at the IT group and IT project level.

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

The following recommendations are outstanding and not yet ready for follow-up audits:

Infrastructure needs: Process to prioritize projects—October 2007, no. 4, vol. 1, p. 57

We recommend that the Department of Infrastructure improve the process to evaluate proposed infrastructure projects that ministries submit.

Infrastructure needs: Improving current information—October 2007, no. 5, vol. 1, p. 59

We recommend that the Department of Infrastructure, working with the Treasury Capital Planning Committee, examine how the current information provided to Treasury Board and Finance can be improved.

Infrastructure needs: Deferred maintenance—October 2010, no. 8, p. 89

(Originally October 2007, no. 2, p. 49)

We again recommend that the Department of Infrastructure, in consultation with departments, develop objectives, timelines and targets for reducing deferred maintenance, and include information on deferred maintenance in the province's Capital Plan.

¹ Report of the Auditor General of Alberta—October 2009, page 287.

**Infrastructure needs: Maintaining assets over their life—October 2010, no. 9, p. 92
(Originally October 2007, no. 3, p. 54)**

We again recommend that the Department of Infrastructure establish a process that enables public infrastructure assets to be properly maintained over their life.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

**Alberta schools alternative procurement: Challenging and supporting assumptions
—April 2010, no. 1, p. 22**

We recommend that the Department of Infrastructure improve processes, including sensitivity analysis, to challenge and support maintenance costs and risk valuations.

Alberta schools alternative procurement: Transparency—April 2010, no. 2, p. 24

We recommend that the Department of Infrastructure follow its own guidance to publish a value for money report upon entering into a public private partnership agreement.

International and Intergovernmental Relations

OUTSTANDING RECOMMENDATIONS

The following recommendation is outstanding and not yet ready for a follow-up audit:

Evaluating international offices' performance—October 2008, p. 324

We recommend that the Ministry of International and Intergovernmental Relations improve the processes management uses to evaluate the performance of each international office.

Justice and Solicitor General

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Commercial vehicle safety: Inspection tools and vehicle selection—October 2009, p. 124

We recommend that the Department of Justice and Solicitor General improve its inspection capability by incorporating risk analysis into the selection of vehicles for roadside inspection and increasing the amount of information available at roadside.

Commercial vehicle safety: Analysis and measurement—October 2009, no. 15, p. 129

We recommend that the Department of Justice and Solicitor General further develop and improve its data analysis practices for use in program delivery and performance measure reporting.

Legislative Assembly Offices

SUMMARY

There are no outstanding recommendations to the Legislative Assembly Office or Officers of the Legislative Assembly.

Municipal Affairs

SUMMARY

DEPARTMENT

Matters from the current audit

There are no new recommendations to the Department of Municipal Affairs in this report.

Matters from prior audits

The Department of Municipal Affairs has implemented our October 2009 recommendation to improve its management of the disaster recovery program—see below.

ALBERTA SOCIAL HOUSING CORPORATION

Matters from the current audit

We recommend that Alberta Social Housing Corporation review the housing management body cash reserve policy to ensure it is still meeting its objectives—see page 145.

FINDINGS AND RECOMMENDATIONS

DEPARTMENT

Matters from prior audits

Disaster recovery program—implemented

Background

The province provides disaster recovery funding to individuals, businesses, First Nations and municipalities. The Alberta Emergency Management Agency coordinates the activities of various departments involved in the government's response to disasters. The agency also acts as a liaison between the province and the federal government.

The province receives applications from municipalities in which a disaster has occurred. For an event to be qualified as a disaster, its damage must be uninsurable, and the event must be extraordinary and widespread. Applications from the municipalities outline the extent of the damages and the initial estimated recovery costs. The agency reviews the applications and engages a contracted firm to assess the reasonableness of the estimated costs. The agency also engages professional engineers to perform environmental assessments. Based on the reports from these contractors, the agency's disaster recovery coordinator further reviews the application for eligibility and files a request for the province to issue an order in council declaring the event a disaster.

The province shares the cost of financial assistance for disaster recovery with the Government of Canada. Under the federal Disaster Financial Assistance Arrangements program, federal reimbursement is based on actual eligible costs incurred to repair the damages. If the eligible expenditures exceed \$1 per capita of the Alberta population—which is approximately 3.7 million—Alberta qualifies for federal reimbursement and can share up to 90 per cent of the eligible costs with the federal government. Under the agreement, the province must apply for federal financial assistance within six months from the end of a disaster.

Once the provincial order in council is in place, and if the cost of repairing the damages exceeds the \$1 per capita threshold, the Minister of Municipal Affairs will request federal assistance from the federal minister of public safety. If the federal government agrees that the event qualifies for assistance, it issues a federal order in council declaring the event a disaster.

In May 2008, a series of rainstorms caused significant damage in a number of municipalities in southern Alberta. At that time, we found that the Minister of Municipal Affairs submitted a letter to the federal Minister of Public Safety on December 15, 2008 requesting disaster assistance. This submission was beyond the prescribed six-month deadline. To meet eligibility criteria for federal assistance, the minister should have sent the request by end of November 2008. Although the letter was late, the federal government accepted the application with no penalty.

Our audit findings

The department has implemented our 2009 recommendation¹ by setting timelines for key steps for federal funding and periodically assessing and adjusting costs and estimates based on current information.

Set timelines for key steps for federal funding

In 2012–2013, we noted that management tracked details of the disasters that were eligible for federal assistance. The information included milestones such as the date when the province issued the order in council to declare the disaster, and when federal government issued its order in council. Management set both the guidelines requiring municipalities to submit claims to the department, and its internal guidelines to submit request to federal government within 14 days for any event that meets the eligibility criteria for federal assistance.

Between April 2010 and July 2012, a total of seven disasters were eligible for federal assistance. The eligible costs incurred ranged from \$9 million to \$79 million. We noted that the department submitted requests for federal assistance within the prescribed timeline.

TOTAL PROJECTED COST (\$ millions)	DISASTER LOCATION
\$79	2010 Southern Alberta
\$10	2011 Spring Southern Alberta
\$12	2011 Southwestern Alberta
\$14	2011 Northern Alberta
\$10	2011 Northwest Alberta
\$9	2012 City of Calgary
\$11	2012 City of Edmonton

Periodically assess and adjust costs and estimates based on current information

In preparing the department's 2012–2013 financial statements, management assessed and adjusted the costs and recovery estimates for previous disasters based on current information. During 2012–2013, management met on multiple occasions to discuss disaster program accruals and revise the disaster program estimates accordingly. Management continues to meet frequently throughout the fiscal year to ensure disaster program estimates are as accurate as possible.

¹ Report of the Auditor General of Alberta—October 2009, no. 34, page 301.

ALBERTA SOCIAL HOUSING CORPORATION

Matters from the current audit

Reserves to housing management bodies

Background

Alberta Social Housing Corporation provides cash reserves to housing management bodies² for short-term operational cash flow requirements. As of March 31, 2013, the aggregate amount of the cash reserves held by management bodies was over \$5 million. The reserve for each housing management body is based on the number of housing units. ASHC's current policy is to replenish the reserve amount if the housing management bodies use part of the reserve during the year. ASHC can collect these reserves at any time at the discretion of the Minister.

ASHC requires the housing management bodies to submit audited financial statements each year for its review.

RECOMMENDATION 11: REVIEW HOUSING MANAGEMENT BODY CASH RESERVE POLICY

We recommend that the Alberta Social Housing Corporation review the housing management body cash reserve policy to determine if the policy continues to meet its objective of providing appropriate short-term operational cash flow requirements to the housing management bodies.

Criteria: the standards for our audit

ASHC should review housing management bodies' short-term operational needs before replenishing their cash reserves.

KEY FINDING

ASHC provides cash reserves to those housing management bodies for their operational cash flow needs even though some of them have surpluses.

Our audit findings

We obtained the audited financial statements of about 100 housing management bodies for the most recent two years. We noted that 39 housing management bodies generated surpluses for at least two consecutive years; however, they also received cash reserves from ASHC for their short-term operational needs.

Housing management bodies must have sufficient cash to meet their short-term operational needs. Those that are generating surpluses year over year may not require cash reserves to meet their short-term operational needs.

Implications and risks if recommendation not implemented

Funds can be better allocated to other priorities if ASHC does not provide cash reserves to those housing management bodies that have sufficient surpluses to meet their operational needs.

² Housing management bodies are established under the *Alberta Housing Act* to provide housing management services and to ensure efficient administration of the housing properties portfolio.

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

The following recommendations are outstanding and not yet ready for follow-up audits:

Improve monitoring processes—July 2013, no. 12, p. 90

We recommend that the Department of Municipal Affairs improve its monitoring processes to ensure affordable housing grant recipients comply with their grant agreements by:

- developing and conducting risk-based monitoring activities
- following procedures and processes when performing monitoring activities

Develop an evaluation system—July 2013, no. 13, p. 92

We recommend that the Department of Municipal Affairs improve its evaluation processes by:

- developing performance measures and adequate information systems so that the department can better evaluate and report on its affordable housing grant programs
- completing periodic evaluations of its affordable housing grants programs

ALBERTA SOCIAL HOUSING CORPORATION

The following recommendations are outstanding and not yet ready for follow-up audits:

Seniors care: Effectiveness of Seniors Lodge Program—October 2005, no. 12, p. 66

We recommend that the Alberta Social Housing Corporation:

- improve the measures it uses to assess the effectiveness of the Seniors Lodge Program
- obtain sufficient information periodically to set the minimum disposable income of seniors used as a basis for seniors lodge rent charges

Seniors care: Determining future needs for Alberta Seniors Lodge Program—October 2005, p. 67

We recommend that the Alberta Social Housing Corporation improve its processes for identifying the increasing care needs of lodge residents and consider this information in its plans for the Seniors Lodge Program.

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Social housing contracting policy—November 2011, no. 17, p. 120

We recommend that the Alberta Social Housing Corporation develop a contracting policy for capital additions to its social housing portfolio and strengthen related contract management processes.

Service Alberta

OUTSTANDING RECOMMENDATIONS

MINISTRY

The following recommendations are outstanding and not yet ready for follow-up audits:

Guidance to implement information technology control frameworks—April 2008, no. 7, p. 170

We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer Council, develop and promote:

- a comprehensive information technology control framework, and accompanying implementation guidance
- well-designed and cost-effective information technology control processes and activities.

Access and security monitoring of the revenue application systems—October 2008, p. 346

We recommend that the Ministry of Service Alberta ensure adequate logging and monitoring processes are in place in all application systems that host or support financial information and Albertans' personal information.

System conversion process—October 2008, p. 349

We recommend that the Ministry of Service Alberta document its review of actual system-conversion activities to ensure that they comply with the approved test plan for system conversion and data migration.

Information technology resumption plan—October 2009, no. 35, p. 311

We recommend that the Ministry of Service Alberta complete and test an information technology resumption plan.

Payroll review processes—October 2009, p. 312

We recommend that the Ministry of Service Alberta improve its process to provide timely supporting documentation on payroll information that it maintains for itself and its client ministries.

Ranking of non-compliance at registry agencies—October 2012, no. 27, p. 133

We recommend that the Ministry of Service Alberta rank the significance of findings it identifies at registry agencies and document its follow-up processes.

Tourism, Parks and Recreation

SUMMARY

DEPARTMENT

There are no outstanding recommendations to the Department of Tourism, Parks and Recreation.

Transportation

SUMMARY

DEPARTMENT

Matters from the current audit

There are no new recommendations to the Department of Transportation in this report.

Matters from prior audits

The Department of Transportation has implemented the following prior-year recommendations:

- develop and implement an IT risk assessment framework—see below
- implement a policy for vehicle use—see below
- manage access to the computer application used to manage contracted work for maintenance of provincial highways—see page 152

FINDINGS AND RECOMMENDATIONS

Matters from prior audits

IT risk assessment—implemented

Our audit findings

The department implemented our 2009 recommendation¹ to develop and implement an IT risk assessment framework by determining a process to assess risks within IT projects, the IT group and the department.

The department is maintaining a register of information technology threats and risks that could have an impact on business activities. The department's threat and risk management team assesses risks at the department level. The team includes the information technology group and is led by the business area. The information technology group, with business area participation, assesses risk at the IT group and IT project level.

Vehicle use policy—implemented

Our audit findings

The department implemented our 2012 recommendation² to implement a policy about vehicle use, with due regard for economy.

The department implemented its policy on vehicle management and use, in October 2012. Under the policy, employees who drove 20,000 kilometres in the prior year, or who expected to drive at least 20,000 kilometres in the current year, would be provided with vehicles to use while on government business.

¹ *Report of the Auditor General of Alberta—October 2009*, page 329.

² *Report of the Auditor General of Alberta—October 2012*, no. 29, page 142.

Monitoring access and data entry to the Program Management Application—implemented

Our audit findings

The department implemented our 2012 recommendation³ to improve its processes to:

- monitor access to the program management application to ensure that staff have only the level of access they need to perform their work
- ensure that contract information entered into the application is complete, accurate and authorized

The department took the following actions to implement the recommendation:

- removed access for those not requiring the access for their jobs
- generated a report to identify where contract managers were also assigned a maintenance contractor inspector role, and removed their MCI access role
- required end dates for delegated MCI roles, not to be later than fiscal year end
- implemented a process to have operations managers and MCIs review the bid items for accuracy and completeness and confirm them with the system administrator

OUTSTANDING RECOMMENDATIONS

DEPARTMENT

The following recommendations are outstanding and not yet ready for follow-up audits:

Commercial vehicle safety: Progressive sanctions—October 2009, no. 14, p. 127

We recommend that the Department of Transportation strengthen enforcement processes relating to, or arising from, roadside inspections.

Managing structural safety of bridges: Assessing whether to contract out program delivery—October 2012, no. 5, p. 26

We recommend that the Department of Transportation regularly assess whether it should contract out inspections or do them itself.

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Improve processes to value donated assets in the department financial statements—October 2010, p. 197

We recommend that the Department of Transportation:

- enter into agreements with donors that:
 - provide the Department of Transportation with assurance on the fair value of the donated assets
 - specify whether donation receipts will be issued
- document its support for the valuation reported in its financial statements, including the procedures performed, assumptions made and source documents reviewed

Managing structural safety of bridges: Design of level 1 visual inspections—October 2012, no. 1, p. 21

We recommend that the Department of Transportation improve its inspection processes by ensuring that it collects all the information it needs to assess the quality of inspections.

Managing structural safety of bridges: Quality of inspections—October 2012, no. 2, p. 23

We recommend that the Department of Transportation regularly assess whether contractors perform inspections following its standards and take corrective action if they do not.

³ Report of the Auditor General of Alberta—October 2012, no. 28, page 141.

Managing structural safety of bridges: Inspector certification—October 2012, no. 3, p. 24

We recommend that the Department of Transportation ensure that contractors who perform inspections are properly certified.

Managing structural safety of bridges: Timeliness and completeness of inspections—October 2012, no. 4, p. 25

We recommend that the Department of Transportation ensure that bridges are inspected as frequently as its standards require.

Managing structural safety of bridges: Contracting level 1 bridge inspections—October 2012, no. 6, p. 27

We recommend that the Department of Transportation improve its process to contract its level 1 inspections by:

- documenting how it establishes criteria for assessing candidates and awards points for each criterion
- ensuring proposal requirements do not limit qualified candidates

Managing structural safety of bridges: Controls over access to the bridge information system—October 2012, no. 7, p. 28

We recommend that the Department of Transportation improve its processes to monitor access to the computer system that manages bridge inventory and inspections.

Managing structural safety of bridges: Maintenance activities—October 2012, no. 8, p. 29

We recommend that the Department of Transportation improve the information that senior management receives on inspector activities, results, maintenance and other actions.

Managing structural safety of bridges: Capital planning—October 2012, no. 9, p. 31

We recommend that the Department of Transportation ensure that it gives decision makers the information they need to assess the impact of funding alternatives on bridge safety and protection of the province's investment.

Treasury Board and Finance

SUMMARY

DEPARTMENT

Matters from the current audit

There are no new recommendations to the Department of Treasury Board and Finance in this report.

Matters from prior audits

The department has implemented our recommendation to improve processes to select performance measures—see page 156.

ATB FINANCIAL

We have three new recommendations that ATB Financial:

- develop a formal process to accept information technology risks—see page 156
- update and adhere to its information technology change management processes—see page 157
- fix the problems with borrower risk ratings in the new banking system—see page 158

ALBERTA INVESTMENT MANAGEMENT CORPORATION

We report that Alberta Investment Management Corporation has implemented three of our recommendations related to:

- completeness and accuracy of the general ledger—see page 159
- reconciling its revenue from cost recoveries reported in its financial statements to the total fees it recovers from its clients and investment pools—see page 159
- securities reconciliation—see page 159

ALBERTA GAMING AND LIQUOR COMMISSION

We made one new recommendation to Alberta Gaming and Liquor Commission to improve its processes for managing information security patches—see page 160.

We also report that AGLC has implemented our recommendation to obtain sufficient information to comply with International Financial Reporting Standards disclosures requirements in its annual financial statements—see page 160.

FINDING AND RECOMMENDATIONS

DEPARTMENT

Matters from prior audits

Improving processes to select performance measures—implemented

In 2011¹ we recommended that the Department of Treasury Board and Finance work with other ministries to improve processes for selecting measures for public reporting.

Our audit findings

The department provided guidance to ministries such as the requirement for well-established methodology and current data for measures. Ministries incorporated the guidance into their processes to select measures for review.

ATB FINANCIAL

Matters from the current audit

IT risk assessments

Background

Effective risk management is important to ensure that ATB identifies and manages the information technology risks it is exposed to. This allows ATB to develop and implement effective policies, procedures and controls to mitigate those risks. By assessing and ranking risks specific to its computing environment, ATB's IT services department (ITSD) can more efficiently and effectively focus their efforts and use resources to remediate more significant risks. Risk acceptance is also important to organizations. To accept risks, however, organizations must identify and understand the risks and the impact they will have if they are not remediated.

RECOMMENDATION 12: IT RISK ASSESSMENTS

We recommend that ATB Financial implement processes to identify, assess and remediate or accept IT risks.

Criteria: the standards for our audit

ATB should have systems or processes in place to:

- regularly identify and assess organizational risks that are or can be remediated through effective IT processes, procedures and controls
- identify or implement effective policies, procedures or controls to remediate identified risks
- formally accept risks when it is decided to not implement a risk mitigation strategy but instead accept the risk

KEY FINDING

ATB accepted risks to its computing environment without following a defined risk acceptance process.

Our audit findings

Although ATB has an enterprise risk management process, ITSD does not have a defined process to identify and assess risks in its computing environment. During our audit of IT

¹ Report of the Auditor General of Alberta—November 2011, no. 3, page 57.

controls, ITSD told us it accepted IT risks instead of following a process or control. For example ITSD accepted risks in areas including:

- access by developers to make changes directly in the production environment
- excess access of individuals with the “fire-fighter” account
- extent to which outsourced service providers are monitored
- not requiring defined test and back-out plans for or post implementation verifications of changes to its new banking system

For the above areas of risk acceptance ITSD was unable to provide evidence of:

- the process it went through to identify and accept risks
- an assessment of the impact to ATB
- who accepted the risks and if that person had the authority to do so

ATB was also unable to provide any evidence that its risk management group or senior management outside of ITSD were aware that policies or control processes were not being followed and that the risk of not doing so was being accepted instead.

Implications and risks if recommendation not implemented

Without effective IT risk management practices, ATB Financial may not identify its IT risks, the impact of the risks to ATB Financial, or if its IT risks are being sufficiently mitigated.

Change management

Background

Change management is the process used to request, develop, test, approve and implement changes to IT systems and applications. Effective change management prevents unauthorized changes from being made to important systems that host or process critical data.

RECOMMENDATION 13: IT CHANGE MANAGEMENT

We recommend that ATB Financial ensure its IT change management processes are followed.

Criteria: the standards for our audit

ATB should have effective controls to ensure that its information technology change management process is followed.

KEY FINDING

Changes to ATB’s banking system did not always follow the requirements defined in its change management policy and procedures.

Our audit findings

ATB has a change management process that contains the requirements to make changes to its banking system and what must be documented in ATB’s change management system related to the change.

We selected 30 changes for testing. We noted exceptions where changes made to the banking system did not follow specific requirements in ATB’s change management process.

ATB’s change management process requires risk assessments, test plans, back-out plans and business validations for all changes made. All 30 of the changes selected for testing were documented as completed in ATB’s change management system for these requirements.

However, as the supporting documentation for those requirements were not consistently documented in ATB's change management system management could not demonstrate that those steps were completed, or met the requirements in its change management process.

Also, nine of the 30 changes we selected for testing were considered emergencies. Of these nine changes:

- seven were not related directly to an incident ticket as required by policy
- three were not approved and closed by the end of the next business day after the emergency change was implemented as required by the policy

Implications and risks if recommendation not implemented

Without effective change management processes, ATB Financial could be at risk of allowing unauthorized or untested changes to its banking system which could cause future problems.

New banking system—borrower risk ratings

Background

The borrower risk rating (BRR) is a rating scale of 1 to 13 that is assigned to all of ATB's non-consumer borrowers. BRRs are a significant input for the calculation of the collective loan loss allowance. The risk rating is based on the ability of the borrower to pay back its loan to ATB.

ATB determines or updates a risk rating when:

- a new loan application is completed
- a borrower requests new funds
- it completes the annual loan review
- a material or adverse change in borrower circumstances occurs

ATB's credit department uses the non-consumer risk rating (NCRR) system to calculate ATB's BRRs for individual borrowers. The NCRR system is ATB's system of record for BRRs. Lenders responsible for a loan are also responsible to make sure the BRR is accurate inside the banking system.

RECOMMENDATION 14: BORROWER RISK RATINGS

We recommend that ATB Financial fix the borrower risk ratings in the banking system.

Criteria: the standards for our audit

The borrower risk ratings in ATB's banking system should be accurate.

KEY FINDING

ATB does not have an accurate listing of borrower risk ratings in its banking system.

Our audit findings

We found that the banking system does not have an accurate listing of BRRs for ATB's business and agriculture loans.

We tested 25 business and agriculture loans in the banking system to ensure the BRRs matched the NCRR system. We found that seven of them did not match due to:

- lenders not consistently updating the BRRs in the banking system
- information not flowing correctly from the user interface part of the banking system to the module that is used for reporting

Implications and risks if recommendation not implemented

ATB Financial does not have an accurate reflection of credit risk within its loan portfolio and could report inaccurate financial information because calculations such as the loan loss allowance are dependent upon accurate borrower risk ratings in the banking system.

ALBERTA INVESTMENT MANAGEMENT CORPORATION**Matters from prior audits**

General ledger: ensure accuracy and completeness—implemented

Our audit findings

AIMCo implemented our 2010 recommendation² to implement additional control procedures so that it can ensure the completeness and accuracy of its investment general ledger.

We examined management's quarterly process to reconcile opening and closing book values by taking into account client purchases, redemptions and income. Reconciling differences are examined on a timely basis. We tested the year-end reconciliation in detail and found it to be effective.

AIMCo's revenue from cost recoveries—implemented

Our audit findings

AIMCo implemented our 2011 recommendation³ to reconcile its revenue from cost recoveries reported in its financial statements to the total fees it recovers from its clients and investment pools.

We examined the reconciliation completed by management at March 31, 2013 and concluded it was completed appropriately.

Securities reconciliation—implemented

Our audit findings

AIMCo implemented our 2012 recommendation⁴ to obtain third party statements for all investments not held by external custodians and reconcile its records to those statements.

AIMCo developed monthly procedures to trace investments not held by external custodians to third party statements. We tested the reconciliation and noted no exceptions.

ALBERTA GAMING AND LIQUOR COMMISSION**Matters from the current audit**

Security patch management

Background

A critical part of information security is the timely rollout of patches to secure information systems and applications. Patches generally originate from vendors, to fix vulnerabilities and improve software. A good program for managing security patches greatly reduces security vulnerabilities and the risk of information systems being compromised.

² Report of the Auditor General of Alberta—October 2010, no. 18, page 157.

³ Report of the Auditor General of Alberta—November 2011, no. 15, page 99.

⁴ Report of the Auditor General of Alberta—October 2012, no. 32, page 151.

RECOMMENDATION 15: SECURITY PATCH MANAGEMENT

We recommend that the Alberta Gaming and Liquor Commission ensure it consistently applies security patches to its information systems to proactively manage security vulnerabilities.

Criteria: the standards for our audit

AGLC should ensure that servers, applications and other devices are built to a secure standard and remain secured. Vendor-supplied patches to fix known security vulnerabilities should be applied promptly to prevent a system failure from occurring.

KEY FINDINGS

- AGLC does not consistently apply security patches to its computer servers.
- For some servers, over one year had lapsed since a security patch had last been installed.

Our audit findings

As part of our audit at AGLC, we assessed security practices and tested the patch management controls for its information systems. We selected eight servers to test for timely security patch updates. The servers we tested host AGLC's financial applications, databases and other business systems.

We found significant time gaps between security patches for the servers we tested. In some cases, almost one full year had lapsed since a security patch had last been installed. Although management informed us that it takes time to assess how security patches will affect their systems, significant time had lapsed since the last patch had been applied to critical servers. The time between patches increases AGLC's risk of an exposure or system failure.

In 2012 AGLC used key IT resources to develop and implement a new VLT (video lottery terminal) system and network. As a result, some operational activities like patch management were delayed. Management has now begun to catch up on its patch management plans.

Implication and risks if recommendation not implemented

Delayed patch management increases vulnerabilities in AGLC's computing environment, which may allow unauthorized access to its business applications and critical data, resulting in fraudulent or malicious activities.

Matters from prior audits

Improve the quality of employee benefits note disclosure in the financial statements—implemented

Our audit findings

AGLC implemented our 2012 recommendation⁵ to promptly obtain sufficient information to comply with IFRS standards for disclosures in the employee benefit note in its annual financial statements. In 2013 AGLC prepared the employee benefits note for its fiscal 2013 financial statements in full compliance with IFRS standards for employee benefits. Management hired an independent actuary, received an actuarial assessment report, prepared the appropriate accounting entries and completed its annual financial statement notes in time for the year-end audit.

⁵ *Report of the Auditor General of Alberta—October 2012*, no. 33, page 153.

OUTSTANDING RECOMMENDATIONS

MINISTRY AND DEPARTMENT

The following recommendations are outstanding and not yet ready for follow-up audits:

Inconsistent budgeting and accounting for grants—October 2007, vol. 2, p. 178

We recommend that the Ministry of Treasury Board and Finance, working with other departments, provide guidance to ensure consistent accounting treatment of grants throughout government.

Salary and benefits disclosure—October 2008, p. 371

We recommend that the Ministry of Treasury Board and Finance, through the Salaries and Benefits Disclosure Directive, clarify what form of disclosure, under what circumstances, is required of the salary and benefits of an individual in an organization's senior decision making/management group who is compensated directly by a third party.

Chief executive officer compensation disclosure—October 2008, no. 3, p. 32

We recommend that the Treasury Board and Finance consider applying the new private-sector compensation-disclosure requirement to the Alberta public sector.

Public agencies: Disclosure of termination benefits paid—October 2009, no. 2, p. 29

We recommend that the Ministry of Treasury Board and Finance increase transparency of termination benefits by adopting disclosure practices for Alberta public agencies that disclose termination benefits paid.

Improve ministry annual report processes—July 2012, no. 10, p. 65

We recommend that the Department of Treasury Board and Finance work with ministries to improve annual report:

- preparation processes for identifying significant performance measure variances and developing explanations for these variances for reporting
- approval processes, including senior management sign-off of a summary of the year's performance measure variances and significant variance assessments

Improve performance measure reporting guidance and standards—July 2012, no. 11, p. 67

We recommend that the Department of Treasury Board and Finance improve its guidance for:

- performance measure target setting
- variance identification
- significant performance measure variance assessments and annual report explanation development
- preparing the results analysis

Management has identified these recommendations as implemented—to be confirmed with follow-up audits:

Government credit cards—October 2007, no. 17, vol. 1, p. 174

We recommend that the Department of Treasury Board and Finance, working with all other departments, further improve controls for the use of government credit cards by:

- communicating responsibilities to all cardholders
- clarifying the support required to confirm both the nature and purpose of transactions
- providing guidance to senior financial officers and accounting staff on dealing with significant non-compliance

ALBERTA INVESTMENT MANAGEMENT CORPORATION

The following recommendations are outstanding and are not yet ready for follow-up audits:

Help clients meet financial reporting requirements—October 2010, no. 17, p. 156

We recommend that Alberta Investment Management Corporation identify financial reporting requirements in its investment management agreements with clients. The Alberta Investment Management Corporation should meet with the clients to understand their financial reporting frameworks, their financial accounting requirements and the investment-related information they need to prepare financial statements.

Investment risk IT system—November 2011, no. 14, p. 97

We recommend that Alberta Investment Management Corporation improve its controls over the investment risk IT system.

ATB FINANCIAL

The following recommendations are outstanding and not yet ready for follow-up audits:

Treasury management: Liquidity simulations—October 2008, p. 128

We recommend that Alberta Treasury Branches further expand its use of liquidity simulations as a forward looking liquidity risk measurement tool. We also recommend that the Asset Liability Committee and the Board Oversight Committee consider whether the results of liquidity simulations indicate a need to modify its business plan.

Treasury management: Interest rate risk modeling and stress testing—October 2008, p. 134

We recommend that Alberta Treasury Branches define its significant interest rate risk exposures and model those significant exposures to assess the effects on future financial results.

Internal control weaknesses—October 2008, no. 29, p. 278

We recommend that Alberta Treasury Branches validate and approve business processes and internal control documentation developed by its internal control group and implement plans to resolve identified internal control weaknesses.

Service auditor reports: User control considerations—October 2009, p. 227

We recommend that Alberta Treasury Branches improve its processes related to service providers by ensuring its business areas:

- receive service provider audit reports
- review service provider audit reports and assess the impact of identified internal control weaknesses
- put end-user controls in place to complement service provider controls

**Treasury management: Interest rate risk model assumptions—April 2011, no. 1, p. 48
(Originally October 2008, p. 132)**

We again recommend that Alberta Treasury Branches improve processes for creating, applying and validating assumptions used in its interest rate risk models.

**New banking system internal controls—October 2012, no. 30, p. 148
(Originally November 2011, no. 16, p. 102)**

We again recommend that ATB Financial confirm that the key controls in the new banking system, as identified in its risk and control matrices, are implemented and operate effectively.

Payment card industry—October 2012, no. 31, p. 149

We recommend that ATB Financial put in place processes to monitor its compliance with the Payment Card Industry's requirements.

Management has identified this recommendation as implemented—to be confirmed with a follow-up audit:

Securitization policy and business rules—October 2008, no. 31, p. 280

We recommend that ATB Financial develop and implement a securitization policy and securitization business rules.



Glossary

REPORT OF THE AUDITOR GENERAL OF ALBERTA

October 2013

GLOSSARY

Accountability The responsibility of an organization (government, ministry, department or other entity) to:

- report results (what they spent, and what they achieved)
- compare results with plans, budgets or goals
- explain any difference between the actual and expected results

Government accountability allows Albertans to decide whether the government is doing a good job. They can compare the costs and benefits of government action: what it spends, what it tries to do (goals) and what it achieves (results).

Accrual basis of accounting A way of recording financial transactions that puts revenues and expenses in the period when they are earned and incurred.

Adverse auditor's opinion An auditor's opinion that things audited do not meet the criteria that apply to them.

Assurance An auditor's written conclusion about something audited. Absolute assurance is impossible because of several factors, including the nature of judgement and testing, the inherent limitations of control and the fact that much of the evidence available to an auditor is only persuasive, not conclusive.

Attest work, attest audit Work an auditor does to express an opinion on the reliability of financial statements.

Audit An auditor's examination and verification of evidence to determine the reliability of financial information, to evaluate compliance with laws or to report on the adequacy of management systems, controls and practices.

Auditor A person who examines systems and financial information.

Auditor's opinion An auditor's written opinion on whether things audited meet the criteria that apply to them.

Auditor's report An auditor's written communication on the results of an audit.

Business case An assessment of a project's financial, social and economic impacts. A business case is a proposal that analyzes the costs, benefits and risks associated with the proposed investment, including reasonable alternatives. The province has issued business case usage guidelines and a business case template that departments can refer to in establishing business case policy.

Capital asset A long-term asset.

COBIT Abbreviation for Control Objectives for Information and Related Technology. COBIT provides good practices for managing IT processes to meet the needs of enterprise management. It bridges the gaps between business risks, technical issues, control needs and performance measurement requirements.

COSO Abbreviation for Committee of Sponsoring Organizations of the Treadway Commission. COSO is a joint initiative of five major accounting associations and is dedicated to development of frameworks and guidance on risk management, internal control and fraud deterrence.

Criteria Reasonable and attainable standards of performance that auditors use to assess systems or information.

Cross-ministry The section of this report covering systems and problems that affect several ministries or the whole government.

Crown Government of Alberta

Deferred maintenance Any maintenance work not performed when it should be. Maintenance work should be performed when necessary to ensure capital assets provide acceptable service over their expected lives.

Enterprise risk management (ERM) The systems and processes within an organization used to identify and manage risks so it can achieve its goals and objectives. An ERM creates linkages between significant business risks and possible outcomes so that management can make informed decisions. An ERM framework helps organizations identify risks and opportunities, assess them for likelihood and magnitude of impact, and determine and monitor the organization's responses and actions to mitigate risk. A risk-based approach to managing an enterprise includes internal controls and strategic planning.

GLOSSARY

Enterprise resource planning (ERP) Abbreviation for enterprise resource planning. ERPs integrate and automate all data and processes of an organization into one comprehensive system. ERPs may incorporate just a few processes, such as accounting and payroll, or may contain additional functions such as accounts payable, accounts receivable, purchasing, asset management, and/or other administrative processes. ERPs achieve integration by running modules on standardized computer hardware with centralized databases used by all modules.

Exception Something that does not meet the criteria it should meet—see “Auditor’s opinion.”

Expense The cost of a thing over a specific time.

IFRS International Financial Reporting Standards (IFRS) are global accounting standards, adopted by the Accounting Standards Board of the Canadian Institute of Chartered Accountants. They are required for government business enterprises for fiscal years beginning on or after January 1, 2011.

GAAP Abbreviation for “generally accepted accounting principles,” which are established by the Canadian Institute of Chartered Accountants. GAAP are criteria for financial reporting.

Governance A process and structure that brings together capable people and relevant information to achieve goals (the cost-effective use of public resources).

Government business enterprise A commercial-type enterprise controlled by government. A government business enterprise primarily sells goods or services to individuals or organizations outside government, and is able to sustain its operations and meet its obligations from revenues received from sources outside government.

Internal audit A group of auditors within a ministry (or an organization) that assesses and reports on the adequacy of the ministry’s internal controls. The group typically reports its findings directly to the deputy minister or governing board. Internal auditors need an unrestricted scope to examine business strategies, internal control systems, compliance with policies, procedures, and legislation, economical and efficient use of resources and effectiveness of operations.

Internal control A system designed to provide reasonable assurance that an organization will achieve its goals. Management is responsible for an effective internal control system in an organization, and the organization’s governing body should ensure that the control system operates as intended. A control system is effective when the governing body and management have reasonable assurance that:

- they understand the effectiveness and efficiency of operations
- internal and external reporting is reliable
- the organization is complying with laws, regulations and internal policies

Management letter Our letter to the management of an entity that we have audited. In the letter, we explain:

1. our work
2. our findings
3. our recommendation of what the entity should improve
4. the risks if the entity does not implement the recommendation

We also ask the entity to explain specifically how and when it will implement the recommendation.

Material, materiality Something important to decision makers.

Misstatement A misrepresentation of financial information due to mistake, fraud or other irregularities.

Outcomes The results an organization tries to achieve based on its goals.

Outputs The goods and services an organization actually delivers to achieve outcomes. They show “how much” or “how many.”

Oversight The job of:

- providing watchful care,
- checking that a process/system is working well, and
- signaling preferred behaviour.

Performance measure Indicator of progress in achieving a goal.

Performance reporting Reporting on financial and non-financial performance compared with plans.

Performance target The expected result for a performance measure.

PSAB Abbreviation for Public Sector Accounting Board, the body that sets public sector accounting standards.

GLOSSARY

PSAS Abbreviation for public sector accounting standards, which are applicable to federal, provincial, territorial and local governments.

Qualified auditor's opinion An auditor's opinion that things audited meet the criteria that apply to them, except for one or more specific areas—which cause the qualification.

Recommendation A solution we—the Office of the Auditor General of Alberta—propose to improve the use of public resources or to improve performance reporting to Albertans.

Review Reviews are different from audits in that the scope of a review is less than that of an audit and therefore the level of assurance is lower. A review consists primarily of inquiry, analytical procedures and discussion related to information supplied to the reviewer with the objective of assessing whether the information being reported on is plausible in relation to the criteria.

Risk Anything that impairs an organization's ability to achieve its goals.

Sample A sample is a portion of a population. We use sampling to select items from a population. We perform audit tests on the sample items to obtain evidence and form a conclusion about the population as a whole. We use either statistical or judgemental selection of sample items, and we base our sample size, sample selection and evaluation of sample results on our judgement of risk, nature of the items in the population and the specific audit objectives for which sampling is being used.

Standards for systems audits Systems audits are conducted in accordance with the assurance and value-for-money auditing standards established by the Canadian Institute of Chartered Accountants.

Systems (management) A set of interrelated management control processes designed to achieve goals economically and efficiently.

Systems (accounting) A set of interrelated accounting control processes for revenue, spending, preservation or use of assets and determination of liabilities.

Systems audit To help improve the use of public resources, we audit and recommend improvements to systems designed to ensure value for money. Paragraphs (d) and (e) of subsection 19(2) of the *Auditor General Act* require us to report every case in which we observe that:

- an accounting system or management control system, including those designed to ensure
- economy and efficiency, was not in existence, or was inadequate or not complied with, or
- appropriate and reasonable procedures to measure and report on the effectiveness of programs
- were not established or complied with.

To meet this requirement, we do systems audits. Systems audits are conducted in accordance with the auditing standards established by the Canadian Institute of Chartered Accountants. First, we develop criteria (the standards) that a system or procedure should meet. We always discuss our proposed criteria with management and try to gain their agreement to them. Then we do our work to gather audit evidence. Next, we match our evidence to the criteria. If the audit evidence matches all the criteria, we conclude the system or procedure is operating properly. But if the evidence doesn't match all the criteria, we have an audit finding that leads us to recommend what the ministry must do to ensure that the system or procedure will meet all the criteria. For example, if we have five criteria and a system meets three of them, the two unmet criteria lead to the recommendation. A systems audit should not be confused with assessing systems with a view to relying on them in an audit of financial statements.

Unqualified auditor's opinion An auditor's opinion that things audited meet the criteria that apply to them.

Unqualified review engagement report Although sufficient audit evidence has not been obtained to enable us to express an auditor's opinion, nothing has come to our attention that causes us to believe that the information being reported on is not, in all material respects, in accordance with appropriate criteria.

Value for money The concept underlying a systems audit is value for money. It is the "bottom line" for the public sector, analogous to profit in the private sector. The greater the value added by a government program, the more effective it is. The fewer resources used to create that value, the more economical or efficient the program is. "Value" in this context means the impact that the program is intended to achieve or promote on conditions such as public health, highway safety, crime or farm incomes. To help improve the use of public resources, we audit and recommend improvements to systems designed to ensure value for money.

Other resources

The Canadian Institute of Chartered Accountants (CICA) produces a useful book called, *Terminology for Accountants*. They can be contacted at CICA, 277 Wellington Street West, Toronto, Ontario, Canada M5V 3H2 or www.cica.ca

Office of the Auditor General of Alberta

Performance Report
2012–2013



Mr. Wayne Cao, MLA
Chair
Standing Committee on Legislative Offices

**Office of the Auditor General of Alberta
Performance Report for the Year Ended March 31, 2013**

I am honoured to send you this Performance Report, which presents analysis of office operations and our audited financial statements for the fiscal year April 1, 2012 to March 31, 2013.

[Original signed by Merwan N. Saher, FCA]

Auditor General
Edmonton, Alberta

July 4, 2013

Accountability statement

This performance report of Office of the Auditor General of Alberta for the year ended March 31, 2013 summarizes and analyzes the work of our office for 2013. It was prepared under our direction.

In this report we endeavour to explain how we used Albertans' money to add value as their independent auditor. We are following up on our Business Plan 2012–2015, which publicly outlined strategies and priority initiatives for our 2013 fiscal year.

In addition to our auditor's reports on financial statements, the office released three public reports of the Auditor General of Alberta during the year focused on our systems audit work:

- July 2012
- October 2012
- February 2013

We believe this performance report, which includes our independently audited 2013 financial statements, presents our analysis of operations and results in a complete, fair and balanced manner.

[original signed by]

Merwan N. Saher, FCA
Auditor General

[original signed by]

Eric Leonty, CA
Assistant Auditor General

[original signed by]

Robert Driesen, CA
Assistant Auditor General

[original signed by]

Ed Ryan, CMA
Assistant Auditor General

[original signed by]

Brad Ireland, CA
Assistant Auditor General

[original signed by]

Doug Wylie, CMA, ICD.D
Assistant Auditor General

Our business

Legislative auditing

The Office of the Auditor General of Alberta serves the Legislative Assembly and the people of Alberta. Our mandate is to examine and report publicly on government's management of, and accountability practices for, the public resources entrusted to it. Under the *Auditor General Act*, the auditor general is the auditor of all government ministries, departments, funds and provincial agencies.

Lines of business

We have two core lines of business designed to add value through expert auditing of government:

- financial statements and performance measures
- systems

Our auditor's reports on financial statements are included in the annual reports published by ministries and their related entities. We provide our opinion on whether the financial statements are presented fairly in accordance with appropriate standards.

Ministries and their related entities also include in their annual reports our conclusion when we have examined selected performance measures. We report on the measures of about 15% of the organizations whose financial statements we audit.

Systems audits, our other core line of business, are of two types. In a stand-alone systems audit, we audit major programs or initiatives that an organization undertakes to achieve its goals. In these audits, we answer the question, "Does the organization have the policies, processes and controls to accomplish its goals and mitigate its risks economically and efficiently?" Such systems include procedures to measure and report on the effectiveness of programs. The second type of systems audit is a by-product of other audits. If we find that an organization could improve its systems in areas such as governance and accountability, internal control over financial management, information technology or performance reporting, we make recommendations to management.

We make our findings and recommendations for system improvements public in auditor general reports to the Legislative Assembly.

Once management has acted upon our systems audit recommendations, we carry out follow-up audits to confirm that our recommendations have been implemented. The results of the follow-up audits are also included in auditor general reports to complete the reporting to Albertans.

Our business

In our 2012–2015 business plan, we allocated our funding request of \$25,685,000 for 2013 between our two core lines of business, ministry by ministry. We have re-worked the groupings in that business plan to correspond with the government's current priority areas as summarized below:

	2013				2012	
	Budget	Budget %	Actual	Actual %	Actual	Actual %
	(in thousands)				(in thousands)	
Financial statements auditing						
Government priority areas						
Alberta's Economic Future	\$ 6,333	25%	\$ 6,166	24%	\$ 6,018	25%
Families and Communities	6,859	27%	6,136	24%	6,420	27%
Resource Stewardship	6,945	27%	6,411	26%	6,386	26%
	20,137	79%	18,713	74%	18,824	78%
Executive Council						
and Legislative Assembly	268	1%	368	2%	288	1%
	20,405	80%	19,081	76%	19,112	79%
Systems auditing						
Government priority areas						
Alberta's Economic Future	1,151	4%	1,199	5%	915	4%
Families and Communities	2,061	8%	2,670	10%	2,451	10%
Resource Stewardship	2,068	8%	2,232	9%	1,731	7%
	5,280	20%	6,101	24%	5,097	21%
Executive Council						
and Legislative Assembly	-	-	23	-	-	-
	5,280	20%	6,124	24%	5,097	21%
	\$ 25,685	100%	\$ 25,205	100%	\$ 24,209	100%

This summary shows that the actual systems auditing cost for the families and communities category for 2013, in the amount of \$2,670,000, was significantly higher than the budgeted allocation. In the main, this variance reflects the audit work done on controls over expense claims at Alberta Health Services, included in the *Report of the Auditor General of Alberta—February 2013*. That audit was not contemplated in the plan for 2013.

Schedule 1 to the office's 2013 financial statements lists the ministries assigned to each of the government priority areas.

Our business

Office performance measure

Percentage of costs dedicated to financial statements/systems auditing

The target for the office split of costs between the two core lines of business was 80/20% for 2013. But our goal is to drive down the cost of our financial statements auditing while at the same time maintaining the reliability of that work. If we can achieve our goal we will be able to redirect resources to more systems auditing.

For 2013, the actual split was 76/24%, improving on our target. It is also an improvement from our prior year split of 79/21%.

The improvement was possible as we began to see the results of strategies to make our financial statements auditing more cost effective. For example, more reliance was placed on the work done by our agents and our more junior staff took on added responsibility. Also in 2013, we did not have to carry out special International Financial Reporting Standards transition work applicable to certain audits. That work was completed in 2012.

Percentage of office costs	Prior actual results				2013	
	2009	2010	2011	2012	Target	Actual
Financial statements auditing	79%	80%	82%	79%	80%	76%
Systems auditing	21%	20%	18%	21%	20%	24%
	100%	100%	100%	100%	100%	100%

A 1.0% change in the above percentages reflects a shift of approximately \$250,000 of office resources between financial statements and systems auditing.

Financial statements auditing

Plans and performance

Financial statements auditing

Every year we audit the financial statements of those entities for which we have been appointed auditor, including the consolidated financial statements of the Government of Alberta, as well as every ministry, department, regulated fund and provincial agency. The auditor's report for each of these entities provides the Auditor General's opinion on whether the financial statements are presented fairly in accordance with the appropriate financial reporting framework, most usually public sector accounting standards. These recurring annual audits provide independent assurance on the financial reporting provided to the Legislative Assembly.

Office performance measures

Alberta's consolidated financial statements – report by June 30

Issuing our auditor's report on the consolidated financial statement of the province by June 30 gives timely assurance to the Legislative Assembly on the quality of the financial reporting of government. We issued our most recent auditor's report on June 20, 2013 (prior years – June 21, 2012, June 23, 2011).

Financial statements audits – completion within budget

We are below the target of the percentage of financial statement audits completed within budget. Actual hours and costs exceeded budgets for reasons that included unexpected additional work on accounting information systems conversions by several auditees, certain entities' transitions to a new financial reporting framework and unanticipated risks in some organizations' financial reporting processes. Due to staff departures, replacement staff was recruited. As is normal in these situations, the new staff required more supervision and on-the-job training, thus increasing audit hours and costs.

Auditing standards – pass professional practice review

In February 2013, the Institute of Chartered Accountants of Alberta reviewed our financial statements auditing practice to determine if it meets current auditing standards. We are awaiting their final conclusion, expected in summer 2013. As part of the Institute's three year cycle for practice reviews, we passed our last inspection in 2010.

Financial statements auditing

For 2013, the Auditor General issued 157 (2012 – 158) unqualified auditor's reports on financial statements. We also issued 7 unqualified reports on financial information (2012 – 7). No qualified auditor's reports were issued for 2013 or 2012.

Performance measures

For ministries and some agencies, we complete review engagement procedures on selected non-financial measures of performance in the entity's annual report. We also audit selected measures in the annual progress report on the government's business plan, titled Measuring Up. We report on the reliability, understandability, comparability and completeness of the selected measures of performance. Our reviews and the audit are not designed to provide assurance on the relevance of the measures to users.

For 2013, we issued 20 unqualified review (limited assurance) engagement reports and one unqualified auditor's report on performance measures (2012 – 23 reviews and one audit).

2013 reports

Page 191 has a list of the entities whose financial statements were audited.

Page 195 has a list of the entities whose performance measures were examined.

Systems auditing

Plans and performance

We audit systems government organizations use to achieve their goals. In these systems audits, we are generally focused on operations and performance—the organization’s policies, processes, and controls in place to accomplish its goals and mitigate its risks. Such systems should include procedures to measure and report on the effectiveness of programs. If we find that an organization could improve its systems in areas such as governance and accountability, internal control over financial management, information technology or performance reporting, we make recommendations to management.

We concentrate on areas that will result in improved:

- governance and ethical behaviour—which underpin the success of any organization
- safety and welfare of all Albertans—especially the most vulnerable in our society
- security and use of the province’s resources—which belong to all Albertans and must be protected for future generations

In selecting systems audit projects, we include specific current priority areas: aboriginal, capital planning, pension sustainability and results analysis.

Office performance measures

Systems auditing recommendations – acceptance by ministries and other entities

A key performance measure for our systems auditing is the number of recommendations accepted by the auditee for implementation. We met our target of 95% for recommendations accepted by the government. Our actual result was 98% compared to 100% in the prior year. In the three public reports issued in 2013, we made 78 recommendations.

Each year, we make about 75 recommendations for improvements or changes to government systems and financial controls. We then follow up all recommendations and report publicly whether or not they have been implemented. Follow-up audits confirm that sustainable change has taken place and are the payback on the investment of audit resources that produced the recommendation in the first place. We will repeat our recommendations when management has not satisfactorily implemented them.

Generally, we try to complete follow-up audits within three years. At October 2012, we reported 233 outstanding recommendations, of which 84 were ready for us to complete follow-up audits. This number was reduced from the 308 that we reported as outstanding in our October 2010 report. We continue to actively manage these outstanding recommendations to reduce the number to approximately 150, which represents about two years of recommendations.

Systems auditing

2013 reports

Pages 196 and 197 have a list of audits publicly reported in 2013.

Summaries of some projects included in the three public reports follow.

Primary Care Networks Health and Alberta Health Services Background In 2005, the Primary Care Networks (PCN) program was introduced to operationally connect family physicians and Alberta Health Services in order to proactively prevent acute illness and better manage chronic diseases. Findings We found weaknesses in the design and implementation of the accountability systems for the PCN system.	Recommendations We recommended that clear expectations and targets for the PCN program be established to permit better performance reporting and evaluation. Oversight of the program was recommended for improvement, along with better communication programs to make Albertans aware of PCN services. Duration - September 2011 to June 2012 2013 costs - \$158,000 Total costs - \$406,000 Auditor general report - July 2012
Managing the Structural Safety of Bridges Transportation Background Alberta's roadways system has 1,600 bridges and 2,800 bridge-sized culverts. Well-maintained bridges are necessary to ensure the safety of Albertans and protect their investment in these structures. Findings The ministry has well-designed systems to manage the structural safety of bridges. However, various systems are not operating as they should. We did not find evidence of any unsafe bridges.	Recommendations Our recommendations were directed at improvement in the quality, timeliness and completeness of inspections, inspector certifications and information systems. Changes to improve the information used for bridge maintenance activities and capital planning decisions were also recommended. Duration - May 2011 to September 2012 2013 costs - \$342,000 Total costs - \$865,000 Auditor general report - October 2012

Systems auditing

Office of the Public Trustee

Human Services

Background

The Office of the Public Trustee is entrusted with protecting and managing the property of deceased persons, represented adults and minors when there is no one else to act on their behalf. We were asked by the Department of Justice and Solicitor General to audit the files of the OPT when it determined through an internal investigation that a senior trust officer had misappropriated trust funds.

Findings

While our audit did not find other instances of misappropriation, it did determine that the OPT does not have adequate systems or controls in place to ensure:

- client files are being properly administered
- that there is sufficient rigour in the OPT internal audit function
- trust officers are performing their duties competently and acting in the best interests of OPT clients

Recommendations

We recommended that the OPT improve its file management processes and oversight of client file by ensuring adequate supervisory review and internal audit. Processes recommended for review and improvement include those for:

- approving and paying client expenses
- file documentation and supervisory review
- risk mitigation over potential mismanagement or misappropriation of client assets

Duration - January 2011 to October 2012

2013 costs - \$371,000 *

Total costs - \$2,450,000 *

Auditor general report - February 2013

* total includes \$1.2 million of costs borne by the Department of Justice and Solicitor General (\$96,000 in 2013)

Priority initiatives

Update from business plans

Priority initiatives (from business plans)	Performance update
Outstanding systems audit recommendations Our most recent business plan identified that at October 2012 there were 165 outstanding numbered recommendations. We stated a goal to follow up on the 25 numbered recommendations more than three years old and ready for follow-up audits.	We are on track to complete the follow-up audits of the 25 recommendations by December 31, 2013.
Independent peer review An independent peer review is planned that will report on the design and operational effectiveness of our office's systems. The purpose of the review is to provide conclusions on whether our systems support us doing relevant, reliable and reasonable cost audits.	The office has a signed memorandum of understanding with the Provincial Auditor General of Saskatchewan to lead the independent peer review. The review will be conducted in two stages – design of systems will be examined in the summer of 2013 and the operating effectiveness of systems will be examined the following summer. We expect to make the report on the peer review public in the fall of 2014.
Staff development Recent business plans have highlighted activities directed at re-working our staff mix of students, and recently qualified and experienced professionals in the financial statements and systems auditing groups. In planning audits, job responsibilities are to be reassessed in the interests of broadening and accelerating training and staff development opportunities.	Improved coaching and training was provided in the year to staff. Some re-working of engagement activities, supported by training and supervision, was achieved. However, management believes more progress can be made in 2014. We have created a new position—Director of People Development. The director will oversee staff training and competencies development while working with the office's quality assurance committee.
Results analysis project The office committed to complete a systems audit of the processes used by ministries to prepare the results analysis sections in ministry annual reports. This audit was a prerequisite to developing methodology to provide assurance on management's analysis of performance.	A significant portion of the best practices research on public sector performance reporting and fieldwork for the systems audit had been completed at the end of 2013. We plan to include our audit results in our February 2014 public report.

Our people

We operate as a professional services office competing with the private sector public accounting firms for designated accountants and other professionals with specialized technical skills. As a student training office, we are also in competition for top talent from post-secondary business and accounting programs.

People development has been, and will continue to be, a key focus of our office. Like many professional services firms, particularly in the Alberta environment, one of our main operating challenges is attracting, training and retaining quality staff to carry out our legislative audit office responsibilities. We recognize that our staff are well educated and receive good training, making them attractive to other employers. Without making good hires and investing in their skills development, we would expose the office to audit performance and other business risks.

A challenge of management is to maximize the office's investment in its staff to ensure that our work meets our overriding quality (professional standards for the financial statements and system audit engagements) and accountability objectives (relevant, reliable, reasonable cost). Some staff leave our office for positions with the Alberta government public sector. In these cases, Albertans are able to receive an ongoing benefit from the initial training investment in those individuals through our office.

Office performance measure

Staff turnover rate

Staff turnover is a key performance metric that is monitored for the overall office, within each line of business and by levels of staff experience.

Staff turnover rates are used as cost measures for the office within the context of reasonable cost auditing. For every staff vacancy arising, whether it is due to maternity leave, resignation, performance or retirement, there are costs for replacement hiring, training, supervising and sometimes temporary staff services. As a training office for the accounting profession, given our staff mix and the overall nature of our business, a target turnover rate of 20% is considered by management to be realistic and reasonable.

For 2013, the overall staff turnover rate was 21%, an improvement compared to the prior year's 22% but with the 20% target not being met. The turnover rate was highest among the young auditors who recently achieved their accounting designations. There were also more vacancies related to terminations, retirements and maternity leaves in 2013 compared to 2012.

Our people

Our office is actually two offices, as we have a full-time office in Edmonton and in Calgary. Through 2013, our average monthly full-time equivalent staff was 127 for Edmonton (2012 – 125) and 16 for Calgary (2012 – 14).

As is the case with many public accounting firms, there is a significant seasonal element for the financial statements line of business. As a cost effective means of completing the financial statement audit assignments on time, the office seconds staff from audit firms and contracts firms to complete some work as agents under the office.

2013 staff milestones

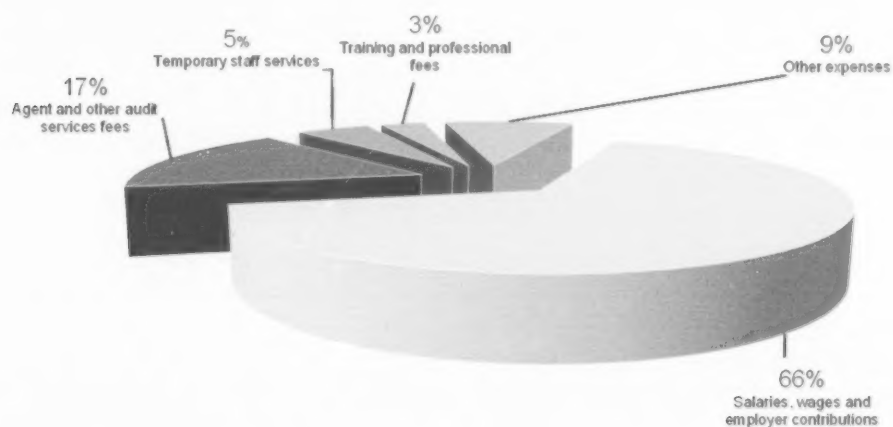
The office's 2012 United Way fundraising campaign was recognized for having the highest staff participation rate and highest average gift per employee among similarly sized Alberta government departments and organizations. This was the fourth consecutive year the office received this recognition.

In December 2012, five staff members were recognized for reaching 10, 15 and 20 year milestones as Alberta public service employees. Most of their experience has been with our office. In some cases, experience with other Alberta government entities contributed towards reaching their milestone. At our 2013 fiscal year end, 34 of our staff members had 10 or more years of Alberta public service experience.

Financial discussion and analysis

The Legislative Assembly funds our operations. For 2013, it provided \$25.4 million for expenses and \$255,000 for capital investment, a total of \$25.7 million. The approved funding was reduced by \$94,000 for expenditures over budget in 2012.

The chart below illustrates our expense pattern. It shows that as a professional auditing office our salary, wages and employer contributions plus professional service contracts for agents and temporary staff represent 88% of our total expenses.



Actuals to budget

We returned \$400,000 or 1.6% of our budget to the Legislative Assembly for 2013. The unspent portion of our budget is the result of management of the mix and cost of our personnel resources pool while ensuring that the aggregate size of the pool remained as budgeted to carry out our work plan.

Our resource pool comprises mainly internal staff supplemented by agents and temporary staff services contracted from accounting firms. Internal staff cost less. But we use agents to meet peak work demands, to provide specialized skills outside the accounting field and to save on travel costs; we also use temporary staff services to fill staff shortages especially during our busy season.

Our salaries, wages and employer contributions were only \$270,000 or 2% under budget. This was achieved through active recruitment to meet our budgeted full time equivalent positions. As a result, our staff were able to both complete their planned work with less overtime and take their vacation entitlements. We incurred less than anticipated banked vacation costs in 2013 and for the first time in eight years reversed the trend of increasing our vacation liability.

Financial discussion and analysis

Proactive staff recruitment also enabled us to save \$200,000 or 14% on temporary staff services by minimizing vacancy periods caused by staff turnover. Besides the cost savings, active staff hiring brought more value for the office as we can train staff to perform both financial statements and systems audits, thereby increasing our capacity to do more systems audits.

We spent \$320,000 or 7% less in agent fees as a result of competitive renewals of agent contracts and the less than anticipated requirements for external specialist consulting in audits.

The budget savings were partially offset by increased spending in advisory services of \$185,000 or 80%, mainly due to corporate initiatives such as staff development carried forward from the prior year and senior staff placement fees paid to recruitment agencies.

Actuals to prior year

Overall, the actual total spending increased by \$1.22 million or 5% over prior year.

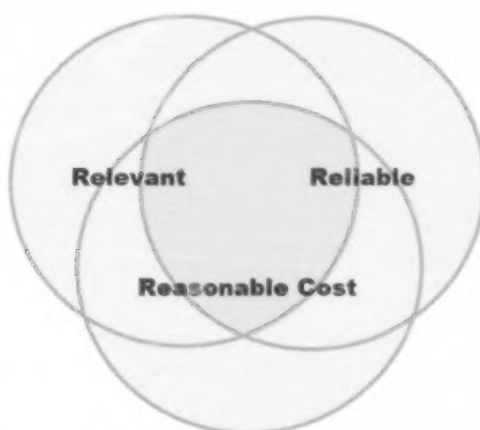
Actual costs for salaries, wages and employer contributions increased by \$1.18 million or 7%. More than one third or \$428,000 was offset by the decrease in temporary staff services. The balance reflects salary adjustments to compete with market demand for accounting professionals, higher employer contributions related to participation in the new Health Spending Account, and increased premiums to pension plans and the Workers' Compensation Board.

Agent fees decreased by \$165,000 or 4% and advisory services increased by \$160,000 or 62% for reasons mentioned in the "Actuals to budget" section above.

We spent more in technology services due to mobile device replacements and software license subscriptions. Also, to replace our IT network servers and storage that were at the end of their life cycle, we incurred \$293,000 in capital investment, compared to last year's spending of \$5,000.

What we learned

As illustrated below, our goal is to optimize the congruence (i.e., the degree and balance) between these three, sometimes competing, accountability objectives.



Office management believes that applying the 3 Rs in our business plan, budget and public reporting process helps focus many of our operational, planning and evaluation decisions.

In considering the office's 2013 performance, we have identified the following learnings for review and follow-up action in 2014.

Effective and sustainable people development

The right complement of staff skills and ongoing people development are critical for high quality and cost effective auditing. Maintaining a workplace that facilitates the recruitment, growth and retention of skilled legislative auditors is important to our activities. In recent years, we have learned that our approaches to meeting these ongoing human resources challenges must be flexible and adapt to market, education and societal changes.

Within the current Alberta economy, we have identified a need to reassess our strategies directed at staff development and retention, particularly in the student through manager ranks. As part of this, we need to ensure that the demands and risks of our professional services business can be competitively met in a positive and supportive work environment. In-house training must be upgraded, including dealing with changes in the professional accounting student programs that are expected in the near future.

What we learned

Timely follow-up after recommendations implemented

The follow-up audit is the payback on the investment of audit resources to produce recommendations in the first place. In making our audit recommendations, we request that the auditee's management commit to an implementation target date. Sometimes these implementation targets are met, sometimes not. When the implementation target is met, our office is generally in a good position to commence and complete our follow-up audit on a scheduled, timely basis.

The audit work to confirm that each recommendation has been sustainably implemented is not superficial. We approach follow-up audits with the rigor that Albertans expect from this office, and will repeat our recommendations when management has not satisfactorily implemented them.

We will have new and follow-up audits in process at any particular time. Over the past few years, having been advised that initial audit recommendations had been implemented, we fell behind on the timeliness of completing some follow-up systems audits. We have reviewed the circumstances involved with our falling behind. We are also in the midst of a two year process of "catching up" and re-balancing our inventory of new and follow-up systems audits. Moving ahead, as part of actively balancing our new and follow-up systems audit work, plans are to better incorporate timely follow-up audit scheduling and completion into our project priorities considerations.

Build our capacity for systems audits

We entered 2013 with specific strategies to build our capacity to do more systems audits. While each strategy yielded results, the ability to schedule extra senior staff to lead systems audits proved most effective. In part, this was achieved by reducing the time of senior staff on financial statements auditing by relying more on the work of our agents. We will continue to work with agents to explore ways where we can either redeploy our own resources or use the expertise of our agents to build the capacity to do more systems audits. With more senior staff gaining systems audit experience, legislative auditing skill sets have grown and the office has added a degree of scheduling flexibility as we move into 2014.

2013 Financial statements reports

We issued an unqualified independent auditor's report on the financial statements for the year ended March 31, 2013 (unless otherwise stated) for the following entities:

Consolidated financial statements of the Province of Alberta

Aboriginal Relations	
Ministry of Aboriginal Relations	
Agriculture and Rural Development	
- Ministry of Agriculture and Rural Development - Department of Agriculture and Rural Development	- Agriculture Financial Services Corporation - Alberta Livestock and Meat Agency Ltd.
Culture	
- Ministry of Culture - Department of Culture - Alberta Foundation for the Arts - Historic Resources Fund	- The Alberta Historical Resources Foundation - The Government House Foundation - The Wild Rose Foundation
Education	
- Ministry of Education - Department of Education	Alberta School Foundation Fund
For the year ended August 31, 2012	
Alberta Teachers' Retirement Fund Board	Northland School Division No. 61
Energy	
- Ministry of Energy - Department of Energy - Alberta Utilities Commission	- Energy Resources Conservation Board - Post-closure Stewardship Fund
For the year ended December 31, 2012	
Alberta Petroleum Marketing Commission	Senior Employee Pension Fund for ERCB & AUC
Enterprise and Advanced Education	
- Ministry of Enterprise and Advanced Education - Department of Enterprise and Advanced Education - Access to the Future Fund - Alberta Enterprise Corporation - Alberta Foundation for Health Research - Alberta Innovates—Bio Solutions - Alberta Innovates—Energy and Environment Solutions	- Alberta Innovates—Health Solutions - Alberta Innovates—Technology Futures - Athabasca University - University of Alberta - University of Calgary - University of Lethbridge

2013 Financial statements reports

For the year ended June 30, 2012	
- Alberta College of Art and Design - Bow Valley College - Grande Prairie Regional College - Grant MacEwan University - Grant MacEwan University Foundation - Keyano College - Lakeland College - Lethbridge College - Medicine Hat College	- Mount Royal University - NorQuest College - Northern Alberta Institute of Technology - Northern Alberta Institute of Technology Foundation - Northern Lakes College - Olds College - Portage College - Red Deer College - Southern Alberta Institute of Technology
Environment and Sustainable Resources Development	
- Ministry of Environment and Sustainable Resource Development - Department of Environment and Sustainable Resource Development	- Environment Protection and Enhancement Fund - Land Stewardship Fund - Climate Change and Emissions Fund - Natural Resources Conservation Board
Executive Council	
- Ministry of Executive Council - Long Term Disability Income Continuance Plan - Bargaining Unit	- Long Term Disability Income Continuance Plan - Management, Opted Out and Excluded - The Public Service Health Spending Account Plan
For the year ended December 31, 2012	
Government of Alberta Dental Plan Trust	Government Employees' Group Extended Medical Benefits Plan and Prescription Drug Plan Trust
Health	
- Ministry of Health - Department of Health - Alberta Health Services	- Calgary Laboratory Services Ltd. - Capital Care Group Inc. - Carewest - Health Quality Council of Alberta
Human Services	
- Ministry of Human Services - Department of Human Services - Calgary and Area Child and Family Services Authority - Central Alberta Child and Family Services Authority - East Central Alberta Child and Family Services Authority - Edmonton and Area Child and Family Services Authority - Metis Settlements Child and Family Services Authority - North Central Child and Family Services Authority - Northeast Alberta Child and Family Services Authority - Northwest Alberta Child and Family Services Authority	- Southwest Alberta Child and Family Services Authority - Southeast Alberta Child and Family Services Authority - Persons with Development Disabilities Calgary Region Community Board - Persons with Development Disabilities Central Region Community Board - Persons with Development Disabilities Edmonton Region Community Board - Persons with Development Disabilities Northwest Region Community Board - Persons with Development Disabilities Northeast Region Community Board - Persons with Development Disabilities South Region Community Board - Office of the Public Trustee

2013 Financial statements reports

For the year ended December 31, 2012	
• Workers' Compensation Board—Alberta	
Infrastructure	
• Ministry of Infrastructure	
International and Intergovernmental Relations	
• Ministry of International and Intergovernmental Relations	
Justice and Solicitor General	
• Ministry of Justice and Solicitor General	• Human Rights Education and Multiculturalism Fund
• Department of Justice and Solicitor General	• Victims of Crime
Legislative Assembly	
• Legislative Assembly Office	• Office of the Chief Electoral Officer
	• Office of the Child and Youth Advocate
	• Office of the Ethics Commissioner
	• Office of the Information and Privacy Commissioner
	• Office of the Ombudsman
Municipal Affairs	
• Ministry of Municipal Affairs	• Alberta Social Housing Corporation
• Department of Municipal Affairs	
For the year ended December 31, 2012	
• Improvement Districts 4, 9, 12, 13, 24 and 349	• Special Areas Trust Account
• Kananaskis Improvement District	
Service Alberta	
• Ministry of Service Alberta	
Tourism, Parks and Recreation	
• Ministry of Tourism, Parks and Recreation	• Alberta Sport, Recreation, Parks and Wildlife Foundation
• Department of Tourism, Parks and Recreation	• Travel Alberta
Transportation	
• Ministry of Transportation	

2013 Financial statements reports

Treasury Board and Finance • Ministry of Treasury Board and Finance • Department of Treasury Board and Finance • Alberta Cancer Prevention Legacy Fund • Alberta Gaming and Liquor Commission • Alberta Gambling Research Institute • Alberta Heritage Foundation of Medical Research Endowment Fund • Alberta Heritage Savings Trust Fund • Alberta Heritage Scholarship Fund • Alberta Heritage Science and Engineering Research Endowment Fund • Alberta Investment Management Corporation • Alberta Lottery Fund	• Alberta Risk Management Fund • Alberta Securities Commission • ATB Financial • ATB Insurance Advisors Inc. • ATB Investment Management Inc. • ATB Securities Inc. • Consolidated Cash Investment Trust Fund • N.A. Properties (1994) Ltd. • Provincial Judges and Masters in Chambers (Registered) Pension Plan • Provincial Judges and Masters in Chambers Reserve Fund • Supplementary Retirement Plan Reserve Fund
For year ended September 30, 2012	
• Gainers Inc.	
For the year ended December 31, 2012	
• Alberta Capital Finance Authority • Alberta Local Authorities Pension Plan Corp. • Alberta Pensions Services Corporation • Credit Union Guarantee Corporation • Local Authorities Pension Plan	• Management Employees Pension Plan • Public Service Management (Closed Membership) Pension Plan • Public Service Pension Plan • Special Forces Pension Plan • Supplementary Retirement Plan for Public Service Managers

2013 Performance measures reports

Government of Alberta

Measuring Up - March 31, 2013 audit report on selected performance measures

Ministries and other organizations

The following ministries and organizations engaged us to review¹ its selected performance measures in their March 31, 2013 annual reports. We issued unqualified review engagement reports on the measures reviewed.

Aboriginal Relations Agriculture and Rural Development Culture Education Energy Enterprise and Advanced Education Environment and Sustainable Resource Development Executive Council Health	Human Services Workers' Compensation Board—Alberta* Infrastructure International and Intergovernmental Relations Justice and Solicitor General Municipal Affairs Service Alberta Tourism, Parks and Recreation Transportation Treasury Board and Finance Alberta Pensions Services Corporation*
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* December 31, 2012 annual report

¹ A review is not an audit, and provides a limited/moderate level of assurance.

2013 Systems auditing reports

July 2012 Public Report

Stand-alone audits

New

Health

- Management of Healthcare Waste Materials at Alberta Health Services
- Primary Care Networks

Treasury Board and Finance

- Analyzing Performance
- Literature Review – Performance Targets

Follow-up

Environment and Sustainable
Resource Development

- Systems to Promote Drinking Water Safety and Regulate Water Well Drilling Activities

Human Services

- Occupational Health and Safety Systems

October 2012 Public Report

Stand-alone audits

New

Transportation

- Managing Structural Safety of Bridges

Ministries - all

- Web Application Vulnerability Assessments

Follow-up

Environment and Sustainable
Resource Development

- Climate Change
- Reforestation

Executive Council

- Protecting Information Assets

Service Alberta

- Protecting Information Assets

Human Services

- Systems to Provide Tuition-based Training to Learners

Other auditing

Agriculture and Rural Development

International and Intergovernmental Relations

Education

Municipal Affairs

Energy

Service Alberta

Enterprise and Advanced Education¹

Tourism, Parks and Recreation & Culture and
Community Services

Environment and Sustainable Resource
Development

Transportation

Health

Treasury Board and Finance

¹ Includes reports on multiple post-secondary education institutions.

2013 Systems auditing reports**February 2013 Public Report
Stand-alone audits****New**

Health

- AHS controls Over Expense Claims, Purchasing Card Transactions and Other Travel Expenses

Human Services

- Office of the Public Trustee

Follow-up

Treasury Board and Finance

- Reporting on Selected Payments to MLAs

Other auditingEnterprise and Advanced Education¹

Treasury Board and Finance

¹ Includes reports on multiple post-secondary education institutions.

The public reports of the Auditor General of Alberta
are available online at <http://www.oag.ab.ca>

Management's responsibility for financial reporting



Legislative Assembly of Alberta Office of the Auditor General Management's Responsibility for Financial Reporting

The accompanying financial statements of the Office of the Auditor General, including the performance measures, are the responsibility of office management.

The financial statements have been prepared by management in accordance with Canadian public sector accounting standards. Financial statements are not precise, since they include certain amounts based on estimates and judgements. When alternative accounting methods exist, management has chosen those it considers most appropriate in the circumstances to ensure that the financial statements are presented fairly in all material respects.

The Office of the Auditor General maintains control systems designed to provide reasonable assurance as to the effectiveness and efficiency of operations, the relevance and reliability of internal and external reporting, and compliance with authorities. The costs of control are balanced against the benefits, including the risks that the control is designed to manage.

The financial statements, including performance measure results, have been audited by St. Arnaud Pinsent Steman, Chartered Accountants, on behalf of the members of the Legislative Assembly.

[Original signed by Merwan N. Saher, FCA]

Auditor General
June 24, 2013

Financial statements (audited) - March 31, 2013

**Legislative Assembly of Alberta
Office of the Auditor General
Financial Statements
March 31, 2013**

Independent Auditors' Report

Statement of Operations

Statement of Financial Position

Statement of Cash Flows

Notes to the Financial Statements

Schedule 1: Lines of Business Cost by Sector and Ministry

Schedule 2: Performance Measures Summary

Financial statements (audited)—March 31, 2013

Daniel J. St. Arnaud, CA**
 John H. C. Pinsent, CA**
 Benardus C. Steman, CA, CFA**

ST. ARNAUD PINSENT STEMAN
 CHARTERED ACCOUNTANTS

INDEPENDENT AUDITORS' REPORT

To the Members of the Legislative Assembly

Report on the Financial Statements

We have audited the accompanying financial statements of the Office of the Auditor General, which comprise the statement of financial position as at March 31, 2013, and the statement of operations and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting principles, and for such internal controls as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian public sector auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal controls relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal controls. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Unqualified Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Office of the Auditor General as at March 31, 2013, and its financial performance and its cash flows for the year then ended in accordance with Canadian public sector accounting principles.

[ORIGINAL SIGNED BY JOHN H. C. PINSENT PROFESSIONAL CORPORATION]

June 24, 2013

John H. C. Pinsent Professional Corporation
 Chartered Accountant

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 Phone: (780) 448-0399 • Fax: (780) 468-6400 • www.sps-ca.ca

* An Association to Practice Chartered Accountancy ** Operates as a Professional Corporation

Financial statements (audited)—March 31, 2013

**Legislative Assembly of Alberta
Office of the Auditor General
Statement of Operations
Year Ended March 31, 2013**

	2013				2012
	Budget	Adjustment	Authorized Budget	Actual	Actual
Expenses:					
Personnel					
Salaries and wages (Note 7)	\$ 13,895,000	\$ -	\$ 13,895,000	\$ 13,498,671	\$ 12,840,741
Agent and other audit services fees	4,575,000	-	4,575,000	4,252,654	4,417,341
Employer contributions	3,050,000	-	3,050,000	3,175,190	2,648,872
Temporary staff services	1,470,000	-	1,470,000	1,271,327	1,699,621
Advisory services	230,000	-	230,000	416,262	257,084
	23,220,000	-	23,220,000	22,614,104	21,863,659
Supplies and services					
Training and professional fees	805,000	-	805,000	759,151	777,532
Travel	560,000	-	560,000	646,084	604,991
Technology services	420,000	-	420,000	472,150	321,753
Materials and supplies	195,000	-	195,000	202,660	175,668
Telephone and communications	80,000	-	80,000	81,027	83,309
Rental of office equipment	70,000	-	70,000	49,544	66,019
Repairs and maintenance	25,000	-	25,000	19,930	22,238
Miscellaneous	20,000	-	20,000	18,252	18,466
Budget encumbrance from 2012	-	(93,986)	(93,986)	-	-
	2,175,000	(93,986)	2,081,014	2,248,798	2,069,976
Total professional services expenses	25,395,000	(93,986)	25,301,014	24,862,902	23,933,635
Add: Amortization of capital assets	290,000	-	290,000	341,613	275,380
Total operating expenses	25,685,000	(93,986)	25,591,014	25,204,515	24,209,015
Less: Audit fee revenue	(2,300,000)	-	(2,300,000)	(2,454,977)	(2,923,648)
Cost of operations for the year (Note 6)	\$ 23,385,000	\$ (93,986)	\$ 23,291,014	\$ 22,749,538	\$ 21,285,367

Financial statements (audited)—March 31, 2013

**Legislative Assembly of Alberta
Office of the Auditor General
Statement of Financial Position
As at March 31, 2013**

	<u>2013</u>	<u>2012</u>
Assets		
Audit fees revenue receivable	\$ 1,757,238	\$ 2,145,127
Other receivables and prepaids	151,416	197,696
Tangible capital assets (Note 3)	<u>256,565</u>	<u>305,469</u>
	<u><u>\$ 2,165,219</u></u>	<u><u>\$ 2,648,292</u></u>
Liabilities		
Accounts payable and accrued liabilities	\$ 1,665,312	\$ 999,008
Accrued vacation pay	<u>1,871,064</u>	<u>1,898,321</u>
	<u>3,536,376</u>	<u>2,897,329</u>
Net Assets (Liabilities)		
Net liabilities at beginning of year	(249,037)	(1,588,854)
Cost of operations	(22,749,538)	(21,285,367)
Net financing provided from General Revenues	<u>21,627,418</u>	<u>22,625,184</u>
	<u>(1,371,157)</u>	<u>(249,037)</u>
	<u><u>\$ 2,165,219</u></u>	<u><u>\$ 2,648,292</u></u>

The accompanying notes and schedules are an integral part of these financial statements.

Financial statements (audited)—March 31, 2013

**Legislative Assembly of Alberta
Office of the Auditor General
Statement of Cash Flows
Year Ended March 31, 2013**

	<u>2013</u>	<u>2012</u>
Operating transactions:		
Cost of operations	\$ (22,749,538)	\$ (21,285,367)
Non-cash item included in cost of operations:		
Amortization of tangible capital assets	<u>341,613</u>	<u>275,380</u>
	(22,407,925)	(21,009,987)
Decrease (Increase) in audit fees receivable	387,889	(167,018)
Decrease in other receivables and prepaids	46,280	33,274
Increase (Decrease) in accounts payable and accrued liabilities	666,304	(1,733,585)
(Decrease) Increase in accrued vacation pay	<u>(27,257)</u>	<u>257,483</u>
Net cash used by operating transactions	<u>(21,334,709)</u>	<u>(22,619,833)</u>
Capital transactions:		
Acquisition of tangible capital assets	<u>(292,709)</u>	<u>(5,351)</u>
Financing transactions:		
Net financing provided from General Revenues	<u>21,627,418</u>	<u>22,625,184</u>
Net cash provided (used)	<u>-</u>	<u>-</u>
Cash, beginning of year	-	-
Cash, end of year	<u><u>\$ -</u></u>	<u><u>\$ -</u></u>

The accompanying notes and schedules are an integral part of these financial statements.

**Legislative Assembly of Alberta
Office of the Auditor General
Notes to the Financial Statements
Year Ended March 31, 2013**

Note 1 Authority and Purpose

The Auditor General is an officer of the Legislature operating under the authority of the *Auditor General Act, Chapter A-46, Revised Statutes of Alberta 2000*. General revenues of the Province of Alberta fund both the cost of operations of the Office of the Auditor General and the purchase of tangible capital assets. The Standing Committee on Legislative Offices reviews the office's annual operating and capital budgets.

The Office of the Auditor General exists to serve the Legislative Assembly and the people of Alberta. The auditor general is the auditor of all government ministries, departments, funds and provincial agencies, including Alberta Health Services, universities, and public colleges and technical institutes. With the approval of the Assembly's Standing Committee on Legislative Offices, the auditor general may also be appointed auditor of a Crown-controlled corporation or another organization. The results of the office's work are included in the public reports of the auditor general presented to the Legislative Assembly.

Note 2 Significant Accounting Policies and Reporting Practices

These financial statements have been prepared in accordance with Canadian public sector accounting standards.

(a) Audit fee revenue

Audit fee revenue is recognized when billable financial statements audits are performed. Audit fees are charged to organizations that are funded primarily from sources other than provincial general revenues.

(b) Lines of business cost

Schedule 1 provides detail of our lines of business cost by sector and ministry.

(c) Expenses incurred by others

Services contributed by other entities in support of the office's operations are disclosed in Note 6.

(d) Tangible capital assets

Tangible capital assets are recorded at historical cost. Amortization is calculated on a straight-line basis, over the following estimated useful lives of the assets:

Computer hardware	3 years
Computer software	3 years
Office equipment	10 years

Financial statements (audited)—March 31, 2013**Note 2 Significant Accounting Policies and Reporting Practices (continued)****(e) Liabilities**

Liabilities are recorded to the extent that they represent present obligations as a result of events and transactions occurring prior to the end of the fiscal year. The settlement of liabilities will result in sacrifice of economic benefits in the future.

(f) Pension expense

Pension costs included as part of these statements refer to employer contributions for the current service of employees during the year and additional employer contributions for service relating to prior years.

(g) Financial instruments

Fair value is the amount of consideration agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act.

The fair values of accounts receivable, other receivables and prepaids, accounts payable and accrued liabilities, and accrued vacation pay are estimated to approximate their carrying values because of the short-term nature of these instruments.

Effective April 1, 2012, the office adopted PS 3450 Financial Instruments. This section deals with how to account for and report financial instruments. As the office does not have any transactions involving financial instruments that are classified in the fair value category and has no foreign currency transactions, there are no remeasurement gains and losses and therefore a statement of remeasurement gains and losses has not been presented.

(h) Net liabilities

Net liabilities represent the difference between the office's liabilities and the carrying value of its assets.

Canadian public sector accounting standards require a "net debt" presentation for the statement of financial position in the summary financial statements of governments. Net debt presentation reports the difference between financial assets and liabilities as "net debt" or "net financial assets" as an indicator of the future revenues required to pay for past transactions and events. The office operates within the government reporting entity, and does not finance its expenditures by independently raising revenues. Accordingly, these financial statements do not report a net debt indicator.

Financial statements (audited)—March 31, 2013**Note 3 Tangible Capital Assets**

		2013		2012
	Historical cost	Accumulated amortization	Net book value	Net book value
Computer hardware	\$ 2,015,496	\$ 1,829,645	\$ 185,851	\$ 199,135
Computer software	310,254	299,182	11,072	32,854
Office equipment	593,940	534,298	59,642	73,480
	<u>\$ 2,919,690</u>	<u>\$ 2,663,125</u>	<u>\$ 256,565</u>	<u>\$ 305,469</u>

Note 4 Benefit Plans

The office participates in multi-employer pension plans: Management Employees Pension Plan, Public Service Pension Plan and Supplementary Retirement Plan for Public Service Managers. The expense for these pension plans is equivalent to the annual contributions of \$1,998,842 for the year ended March 31, 2013 (2012: \$1,693,985). The office is not responsible for future funding of the plan deficit other than through contribution increases.

At December 31, 2012, the Management Employees Pension Plan reported a deficiency of \$303,423,000 (2011: deficiency \$517,726,000), the Public Service Pension Plan reported a deficiency of \$1,645,141,000 (2011: deficiency \$1,790,383,000) and the Supplementary Retirement Plan for Public Service Managers reported a deficiency of \$51,870,000 (2011: deficiency \$53,489,000).

The office also participates in a multi-employer Long Term Disability Income Continuance Plan. At March 31, 2013, the Management, Opted Out and Excluded Plan reported an actuarial surplus of \$18,327,000 (2012: surplus \$10,454,000). The expense for this Plan is limited to the employer's annual contributions for the year.

Financial statements (audited)—March 31, 2013**Note 5 Budget**

The budget shown on the statement of operations is based on the budgeted expenses that the Standing Committee on Legislative Offices approved on November 18, 2011. The current year voted budget was reduced by \$93,986 for the expenditures exceeding budget in 2012. The following table compares the office's actual expenditures to the approved budgets:

Voted budget		
Operating expenses	\$	25,395,000
Capital investments		255,000
		<u>25,650,000</u>
Adjustment		
Budget encumbrance from 2012		(93,986)
		<u>25,556,014</u>
Actual		
Operating expenses		24,862,902
Capital investments		292,709
		<u>25,155,611</u>
Unexpended	\$	<u>400,403</u>

Note 6 Expenses Incurred by Others

The office had transactions with other entities for which no consideration was exchanged. The amounts for the following transactions are estimated based on the costs incurred by the service provider.

	2013	2012
Expenses incurred by Alberta Infrastructure accommodation	<u>\$ 960,036</u>	<u>\$ 893,498</u>
Expense incurred by the Legislative Assembly Office audit fee	<u>\$ 30,000</u>	<u>\$ 29,500</u>

Financial statements (audited)—March 31, 2013

Note 7 Salary and Benefits Disclosure

	2013						
	Pensionable base salary	Cash benefits ⁽¹⁾	Non-cash benefits ⁽²⁾	Severance	Total	Cashed out vacation	Total including cashed out vacation
Auditor general ⁽³⁾	\$ 242,688	\$ -	\$ 80,919	\$ -	\$ 323,607	\$ 18,205	\$ 341,812
Assistant auditors general:							
AAG ⁽⁴⁾	192,890	-	53,790	-	246,680	-	246,680
AAG ⁽⁵⁾	192,890	-	52,608	-	245,498	-	245,498
AAG ⁽⁶⁾	180,090	-	48,682	-	228,772	13,800	242,572
AAG ⁽⁷⁾	161,850	40,463	5,193	-	207,506	25,412	232,918
AAG ⁽⁸⁾	145,262	-	40,904	310,328	496,494	40,441	536,935
AAG ⁽⁹⁾	26,391	-	8,148	-	34,539	-	34,539
AAG ⁽¹⁰⁾	26,391	3,959	1,942	-	32,292	-	32,292
	<u>\$ 1,168,452</u>	<u>\$ 44,422</u>	<u>\$ 292,186</u>	<u>\$ 310,328</u>	<u>\$ 1,815,388</u>	<u>\$ 97,858</u>	<u>\$ 1,913,246</u>
	2012						
	Pensionable base salary	Cash benefits ⁽¹⁾	Non-cash benefits ⁽²⁾	Severance	Total	Cashed out vacation	Total including cashed out vacation
Auditor general ⁽³⁾	\$ 222,241	\$ 1,250	\$ 73,281	\$ -	\$ 296,772	\$ 10,218	\$ 306,990
Assistant auditors general:							
AAG ⁽⁴⁾	185,472	1,250	51,066	-	237,788	-	237,788
AAG ⁽⁵⁾	179,000	1,250	47,507	-	227,757	-	227,757
AAG ⁽⁶⁾	167,000	1,250	42,948	-	211,198	-	211,198
AAG ⁽⁷⁾	179,000	46,000	4,768	-	229,768	-	229,768
AAG ⁽⁸⁾	173,000	1,250	46,318	-	220,568	6,236	226,804
	<u>\$ 1,105,713</u>	<u>\$ 52,250</u>	<u>\$ 265,888</u>	<u>\$ -</u>	<u>\$ 1,423,851</u>	<u>\$ 16,454</u>	<u>\$ 1,440,305</u>

Salary and benefits disclosure is in accordance with Treasury Board Directive 12/98 as amended and Recommendation No. 2 in the *October 2009 Report of the Auditor General of Alberta*.

- (1) Cash benefits include lump sum payments, payments in lieu of certain employer contributions towards non-cash benefits such as long-term disability insurance and pensions. No bonuses were paid in 2013 and 2012.
- (2) Non-cash benefits include the office's share of all employee benefits, and contributions or payments made on behalf of employees including pension, supplementary retirement plans, health care, dental coverage, group life insurance, short and long term disability plans, WCB premiums, professional memberships and tuition fees.
- (3) Non-cash benefits for the auditor general includes \$10,414 (2012: \$10,263) being the lease, fuel and maintenance expenses for an automobile provided.

Financial statements (audited)—March 31, 2013**Note 7 Salary and Benefits Disclosure (continued)**

Responsibilities of the Assistant Auditors General as at March 31, 2013 are as follows:

- (4) Health, Human Services, Legislative Assembly, Measuring Up and Ministry Performance Measures
- (5) Aboriginal Relations, Education, Enterprise and Advanced Education, Executive Council, Intergovernmental and International Relations, Justice and Solicitor General
- (6) Infrastructure, Municipal Affairs, Treasury Board and Finance
- (7) Left on January 31, 2013 (10 months in 2013)
- (8) Left on January 4, 2013 (9 months in 2013)
- (9) Promoted on February 1, 2013 (2 months in 2013). Agriculture and Rural Development, Enterprise and Advanced Education, Service Alberta, Transportation
- (10) Promoted on February 1, 2013 (2 months in 2013). Culture, Energy, Environment and Sustainable Resource Development, Tourism, Parks and Recreation

Note 8 Comparative Figures

Certain 2012 figures have been reclassified to conform to the 2013 presentation.

Note 9 Approval of the Financial Statements

These financial statements were approved by the Auditor General.

Financial statements (audited)—March 31, 2013

Schedule 1

Legislative Assembly of Alberta
Office of the Auditor General
Lines of Business Cost by Sector¹ and Ministry
For the Year Ended March 31, 2013

	2013 Budget			2013 Actual			2012 Actual		
	Auditing			Auditing			Auditing		
	Financial statements ²	Systems ³	Total	Financial statements ²	Systems ³	Total	Financial statements ²	Systems ³	Total
Alberta's Economic Future									
Aboriginal Relations	\$ 102,000	\$ -	\$ 102,000	\$ 44,000	\$ 133,000	\$ 177,000	\$ 50,000	\$ 230,000	\$ 280,000
Agriculture and Rural Development	909,000	-	909,000	637,000	85,000	722,000	791,000	111,000	902,000
Enterprise and Advanced Education	4,779,000	979,000	5,758,000	5,001,000	957,000	5,958,000	4,661,000	554,000	5,215,000
Infrastructure	227,000	45,000	272,000	221,000	6,000	227,000	225,000	6,000	231,000
Intergovernmental and International Relations	59,000	127,000	186,000	73,000	17,000	90,000	118,000	14,000	132,000
Tourism, Parks and Recreation	257,000	-	257,000	190,000	1,000	191,000	173,000	-	173,000
	6,333,000	1,151,000	7,484,000	6,166,000	1,199,000	7,365,000	6,018,000	915,000	6,933,000
Families and Communities									
Culture	206,000	32,000	238,000	141,000	-	141,000	133,000	-	133,000
Education	502,000	187,000	689,000	600,000	74,000	674,000	498,000	10,000	508,000
Health	2,785,000	1,006,000	3,791,000	2,441,000	1,748,000	4,189,000	2,630,000	951,000	3,581,000
Human Services	2,089,000	347,000	2,436,000	1,827,000	596,000	2,423,000	2,105,000	1,234,000	3,339,000
Justice and Solicitor General	514,000	69,000	583,000	496,000	1,000	497,000	433,000	25,000	458,000
Service Alberta	763,000	420,000	1,183,000	631,000	251,000	882,000	621,000	231,000	852,000
	6,859,000	2,061,000	8,920,000	6,136,000	2,670,000	8,806,000	6,420,000	2,451,000	8,871,000
Resource Stewardship									
Energy	979,000	138,000	1,117,000	811,000	36,000	847,000	800,000	81,000	881,000
Environment and Sustainable Resource Development	800,000	1,209,000	2,009,000	695,000	667,000	1,362,000	670,000	698,000	1,368,000
Municipal Affairs	600,000	-	600,000	595,000	375,000	970,000	542,000	90,000	632,000
Transportation	219,000	-	219,000	250,000	412,000	662,000	242,000	460,000	702,000
Treasury Board and Finance	4,347,000	721,000	5,068,000	4,060,000	742,000	4,802,000	4,132,000	402,000	4,534,000
	6,945,000	2,068,000	9,013,000	6,411,000	2,232,000	8,643,000	6,386,000	1,731,000	8,117,000
Executive Council	101,000	-	101,000	144,000	22,000	166,000	78,000	-	78,000
Legislative Assembly	167,000	-	167,000	224,000	1,000	225,000	210,000	-	210,000
	268,000	-	268,000	368,000	23,000	391,000	288,000	-	288,000
	\$ 20,405,000	\$ 5,280,000	\$ 25,685,000	\$ 19,081,000	\$ 6,124,000	\$ 25,205,000	\$ 19,112,000	\$ 5,097,000	\$ 24,209,000

¹ Ministry auditing work is aligned with the government's 2013 priority areas.

² Financial statements audits include reporting on financial statements, performance measures, compliance with authorities and research.

³ Systems audits examine major programs or initiatives an organization undertakes to achieve its goals.

Financial statements (audited)—March 31, 2013

Schedule 2

**Legislative Assembly of Alberta
Office of the Auditor General
Performance Measures Summary**

Performance measures		Actual 2011	Actual 2012	Target 2013	Actual 2013
Relevant auditing					
1.a	Percentage of the auditor general's systems auditing recommendations accepted for implementation ¹	100%	100%	95%	98%
1.b	Number of auditor general's systems auditing recommendations not implemented within three years of acceptance	43	42	Zero	55
1.c	Issue auditor's report on Alberta's consolidated financial statements by June 30 (for the prior March 31 fiscal year end)	June 22, 2010	June 23, 2011	June 29, 2012	June 21, 2012
1.d	Percentage of costs dedicated to financial statements/systems auditing	82/18%	79/21%	80/20%	76/24%
Reliable auditing					
2.a	Institute of Chartered Accountants of Alberta's conclusion that the office's financial statements audits meet practice review standards ²	No review	No review	Pass review	Results pending at year end
Reasonable cost auditing					
3.a	Staff turnover rate - overall ³	18%	22%	Under 20%	21%
3.b	Percentage of financial statements audits completed within budget ⁴	Under development – not reported	68%	90%	67%

¹Acceptance for implementation does not include systems auditing recommendations accepted in principle or under review.

²The practice review is done triennially. The 2010 review result was a pass. The latest practice review was conducted in February 2013. The results will be provided in the summer of 2013.

³Overall staff turnover rate includes voluntary and involuntary vacancies that affect our productivity and costs.

⁴This performance measure aligns with our business plan strategy to "build our capacity to do systems audits by freeing up staff from financial statement audits". It replaces our Business Plan 2012-2015 measure "Benchmarking average hourly audit costs", described as "Under development".



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